

INSTITUTIONAL DYNAMICS OF
MANUFACTURING UNDER STRUCTURAL
ADJUSTMENT: ZIMBABWE 1990-96

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ABSTRACT

The thesis critically and empirically examines the development of manufacturing in Zimbabwe, through a case study of the metal engineering sector, following the introduction of the structural adjustment programme (ESAP) in 1990/91. Original field research of manufacturing firms and supporting organisations was conducted in Zimbabwe during 1995 and 1996.

A theoretical framework is applied using concepts of institutional legacy and path dependency. This provides an alternative approach to use of neo-classically based analytical frameworks. It is concluded that orthodox economic approaches are inadequate as a basis for improving the prospects for successful industrial development, especially in sub-Saharan Africa. There is a need to improve the understanding of a country's changing social relations, in their historical context. This includes analysing patterns of agency within and between institutions and the individuals that comprise them. In part this can be accomplished by examining class and power relations and conflicts.

Zimbabwe's structural adjustment programme was not followed by industrial rejuvenation and expansion. Firm performance varied in ways that cannot be explained using conventional economic approaches. Overall, there has been: a lack of technological and organisational improvements and industrial investment; a decline in real wages and industrial employment; and, a lack of skills improvement across firms and supporting organisations.

Zimbabwean industrial development suffers from a dislocation of interest between those owning most of the productive industrial capital and those formulating policies that affect industry. The capitalist class is fragmented between historically established white capitalists, and emergent indigenous or black interests. Explanations are offered for the observed weaknesses of supporting institutions, including government ministries, training organisations and workers' and employers' organisations.

The findings make a strong case that without better data collection from firms and an improved understanding of historical contexts and constraints, policy shifts to promote industrial development will not have the desired results. Even though the research collects a better data set than previously available, it is difficult to draw the types of definite conclusions and recommendations presented by most commentators on the same questions.

This thesis is dedicated to my dear partner in all of life's adventures, Andrea and my daughter Hannah, who had the grace to wait until the thesis was submitted before appearing in the world, and thus was named.

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Finally, I have to note that despite the support and assistance of many others, the thesis remains entirely my own work.

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LIST OF ABBREVIATIONS

AAG	Affirmative Action Group
ACC	Advanced Capitalist Countries
ACCOR	Associated Chambers of Commerce of Rhodesia
ARnI	Association of Rhodesian Industries
BTC	Bulawayo Technical College
CAD	Computer-aided Design
CAM	Computer-aided Manufacturing
CIP	Census of Industrial Production
CNC	Computer numerically controlled
CPI	Consumer Price Index
CSO	Central Statistical Office
CZI	Confederation of Zimbabwean Industries
DRC	Domestic Resource Cost
DUP	Directly Unproductive Profit-seeking Activity
EEAZ	Engineering Employers' Association of Zimbabwe
EMCOZ	Employers' Confederation of Zimbabwe
ERS	Export Retention Scheme
ES	Engineering Sector
ESAP	Economic Structural Adjustment Programme
FDI	Foreign Direct Investment
FTDC	Foundry Training and Development Centre
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GoZ	Government of Zimbabwe
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
HDE	Human Development Enterprise
HIV	Human Immunodeficiency Virus
HND	Higher National Diploma
HRDP	Human Resources Development Plan
IBDC	Indigenous Business Development Centre
IDC	Industrial Development Corporation
IFI	International Financial Institution
ILO	International Labour Organisation
ISIC	International Standard Industrial Classification
ISO	International Standards Organisation
KPS	Kawasaki Production System
LRA	<i>Labour Relations Act, Act No. 16, 1985</i>
LRT	Labour Relations Tribunal
LTPS	Long Term Perspective Study
MHE	Ministry of Higher Education
MLI	Medium to Large Industries
MoF	Ministry of Finance
MoL	Ministry of Labour
MSI	Micro to Small Industries
MVA	Manufacturing Value Added
NAMACO	National Manpower Advisory Council

NC	National Certificate
ND	National Diploma
NEC	National Employment Council for the Engineering and Iron and Steel Industry
NEDLAC	National Economic Development and Labour Council (South Africa)
NEWU	National Engineering Workers' Union
NIC	Newly Industrialised Country
NIE	New Institutional Economics
NIESR	National Institute of Economic and Social Research (UK)
NMT	New Management Techniques
NPE	Neoclassical Political Economy
OGIL	Open General Import Licenses
R&D	Research and Development
RMSM	Revised Minimum Standards Model
RPED	Regional Programme on Economic Development
SAZ	Standards Association of Zimbabwe
SEDCO	Small Enterprises Development Corporation
SIDA	Swedish International Development Agency
SIRDC	Scientific and Industrial Research and Development Centre
SME	Small to Medium Enterprise
SOAS	School of Oriental and African Studies
TFP	Total Factor Productivity
TNC	Trans-National Corporation
TNDP	Transitional National Development Plan
UDI	Unilateral Declaration of Independence
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development
UZ	University of Zimbabwe
VTC	Vocational Training Centre
WSAB	Wages and Salaries Advisory Board
ZABO	Zimbabwe Association of Business Organisations
ZANU-PF	Zimbabwe African National Union - Patriotic Front
ZCTU	Zimbabwe Congress of Trade Unions
ZDB	Zimbabwe Development Bank
ZECF	Zimbabwe Economic Consultative Forum
ZIC	Zimbabwe Investment Centre
ZIE	Zimbabwe Institution of Engineers
ZIF	Zimbabwe Institute of Foundrymen
ZIMDEF	Zimbabwe Manpower Development Fund
ZISCO	Zimbabwe Iron and Steel Corporation
ZNCC	Zimbabwe National Chambers of Commerce

1. INTRODUCTION

1.1 BACKGROUND

The underlying question which prompted the research recorded in this thesis concerns the practical possibilities for the development of a viable manufacturing sector in sub-Saharan Africa. Since independence, manufacturing success has been limited in most of these countries. The experience of the implementation of World Bank and IMF-inspired structural adjustment programmes across the sub-continent during the 1980s has raised fears of a lack of continuing industrial deepening (Riddell, 1993) and, even, de-industrialisation (Mkandawire, 1991, Stein, 1992, Lall, 1992). Few signs of dynamic new industrial investment or growth have appeared since then.

The development of manufacturing industry has long been regarded as synonymous with economic development.¹ Industrial development is still seen by many as "the critical agent of the structural transformation that marks the transition from a primitive, low productivity, low income state to one that is dynamic, sustained and diversified" (Lall, 1992:105). Yet, typically, manufacturing has been given minimal attention in structural adjustment programmes (Riddell, 1993:217); these programmes have either focussed on primary commodity production or have reflected the notion of sectoral targeting.

Zimbabwe, the most industrialised nation in sub-Saharan Africa to have implemented one of these programmes, saw its manufacturing sector lose 5 percent of its share of GDP between 1990 and 1995 (see Chapter 5). It provides an excellent case study, therefore, of the consequences of structural adjustment and the prospects for future industrial development.

In Zimbabwe, as elsewhere, the performance of the engineering sector has been a key indicator of the increasing depth of industrial development. The engineering sector has backward and forward linkages to most other sectors of the economy, producing capital and

¹ See, for example, Young, 1928, and Kaldor, 1966, who both emphasised manufacturing as an engine of growth, with manufacturing more susceptible than other sectors, such as mining and agriculture, to extensive division of labour as markets grow (see also Argyrous, 1996).

intermediate goods, as well as consumer goods. It forms the focus of the research.

Before proceeding to a detailed examination of any specifics pertaining to Zimbabwe, some general observations are appropriate. Structural adjustment policies typically emphasise moving to a market price-based incentive system. Following any devaluation, export prices should become more attractive relative to domestic market prices, and prices of domestically produced tradeables should become more attractive relative to competing imports. Domestic production should shift towards tradeables and to more allocatively efficient, labour-intensive industries, firms and products, with lower domestic resource costs. The potential problems with this expected outcome include: difficulties undertaking new investment due to high real interest rates and other financial sector impediments; the removal of quantitative trade restrictions and reductions in tariffs opening domestic production to imports, which out-compete local products on many criteria, including price (where the imported goods are produced in lower cost/lower margin environments); structural difficulties in entering export markets for the first time; and a range of problems in taking advantage of new opportunities due to a lack of technological capabilities.²

If firms behaved according to the pattern implied by orthodox economic assumptions, they would react to changes in prices; alter their firm strategy in terms of product mix and production techniques; and, follow this through with changes in firm behaviour. Orthodox economics rarely enters the 'black box' of the firm, however, to explain in detail how these changes might occur and how decisions to change firm strategy and behaviour are made. New institutional economics attempts this to a greater extent (see Chapter 2). It too has its limitations, however.

This thesis examines in some detail what firms in Zimbabwe actually did, in the face of changes in economic policy. It attempts to uncover the variety of actually experienced change processes at the firm level. The actions of firms were not only influenced by crude economic incentives, but also by other institutions involved in the processes of production and exchange. These included other firms; non-firm organisations attempting to support and assist industrial firms; and, other less visible institutions of influence, including the legal

² See the critical review of theoretical arguments and empirical evidence for and against structural adjustment type policy packages in Chapter 2.

framework and business norms.

The thesis examines a small number of Zimbabwean engineering firms, in order to understand how industry has developed under the economic policy shifts known as structural adjustment.

While the thesis focuses on the period of the first phase of Zimbabwe's Economic Structural Adjustment Programme (ESAP) during 1990-96, there are occasions where more recent events throw light on the earlier period.

1.2 THE THEORETICAL AND EMPIRICAL CONTRIBUTION OF THE THESIS

The central question, about how paths of industrial development are affected by certain types of economic policy change, can be divided into a number of sub-questions. Each of these is examined in the thesis. They are:

- i. What have been the main determinants of the pattern of industrial development in Zimbabwe, from UDI onwards? How successful was it prior to the introduction of the various liberalisation and other policies, collectively known as ESAP, in 1990?
- ii. Why have some manufacturing firms achieved better results than others, on a variety of performance criteria, during that period? What are, and have been, the main influences on the behaviour and performance of Zimbabwean industrial firms?
- iii. How has the institutional framework surrounding and underpinning industry in Zimbabwe been contributing to and/or detracting from industrial development?
- iv. What are the prospects for industrial deepening in Zimbabwe and how can deepening be encouraged?

The core thesis is that these questions can only begin to be answered once it has been recognised that the orthodox approach to solving the problems of countries in sub-Saharan Africa through structural adjustment programmes is fundamentally flawed. Such

programmes cannot promote viable industrial sectors, which are essential to guarantee more dynamic economies. The orthodox approach cannot take into account many of the key constraints and influences that shape the way that development actually occurs. This failure arises because of the methodological limitations of the economic theory employed by the Washington based institutions.

This research is unique in its empirical application of an institutional approach based on the use of institutional legacies and path dependence as tools of analysis to better understand the dynamics of policy formulation, implementation and the responses of economic agents. Original primary data were collected from a census of the engineering sector, case studies of ten manufacturing firms and interviews with representatives of non-firm organisations supporting industrial development in Zimbabwe, during a nine month period in 1995-96. The data were analysed using a combination of institutional tools, while taking into account agency, linkages and structure in a dynamic way to improve the understanding of development processes and constraints.

1.3 OVERVIEW

The thesis concludes that orthodox economic approaches are at best partially useful in understanding processes of industrial change. Such approaches are inadequate as a basis for improving the prospects for successful industrial development, especially in sub-Saharan Africa.

The thesis offers a critical alternative to new institutional economics, drawing on literature from an older institutional perspective and examples of empirical analysis in economic history. Theoretically, it is found that there is a need to improve the understanding of a country's changing social relations, in their historical context. This includes analysing patterns of agency within and between institutions and the individuals that comprise them. In part this can be accomplished by examining class and power relations and conflicts.

Applying this approach to Zimbabwe reveals that the structural adjustment programme has not been followed by industrial rejuvenation and expansion. Neither has de-industrialisation

occurred in all sectors. Instead, firm performance has varied in ways that cannot be explained using conventional economic approaches. Overall, there has been: a lack of industrial investment and technological improvement; poorly understood and implemented efforts to adopt imported organisational improvements; a decline in real wages and industrial employment; and, a lack of major efforts to improve skills and human resource capabilities across firms and supporting organisations.

Zimbabwean industrial development suffers from a dislocation of interest between those owning most of the productive industrial capital and those formulating policies that affect industry. The capitalist class is fragmented between historically established white capitalists, and emergent indigenous or black interests. These are in conflict, which negatively affects the ability of industrial capitalists to lobby effectively for their interests. Various explanations are offered for the observed weaknesses of supporting institutions, including government ministries, training organisations and workers' and employers' organisations.

The findings make a strong case that without better firm data collection and an improved understanding of historical contexts and constraints, policy shifts to promote industrial development will not have the desired results. Even though the research collects a better data set than previously available, it is difficult to draw the types of definite conclusions and recommendations presented by most commentators on the same questions.

1.4 CHAPTER OUTLINE

The thesis is divided into eight chapters. The second critically assesses the literature on a number of areas related to the core subject. These include various interpretations of industrial development and economic policy shifts, with particular reference to African countries under structural adjustment. The chapter also looks at the possibilities for industrial development at the end of the twentieth century, with a particular focus on lessons from East Asia. This is followed by a search for an appropriate theoretical framework, which encompasses examination of agency, linkages and structure, as well as the use of path dependency and institutional legacy as critiques of new institutional economics.

The third chapter outlines the methodology applied in conducting the fieldwork data

collection.

The following two chapters present a historical perspective on the evolution of industrial development in Zimbabwe. Chapter 4 covers the period from UDI in 1965 to the launch of ESAP in 1990. Apart from a broad overview of industrial development, several areas are highlighted, which provide the basis for the analysis of institutional legacies in later chapters. These include: policy determinants; production efficiency and competitiveness; the treatment of workers; and, the development of skills and technology. Chapter 5 examines and interprets data on the changing fortunes of industrial development during ESAP, following 1990. The chapter also briefly appraises other interpretations of that period.

Chapters 6 and 7 present and analyse the original empirical content of the thesis. The first of these examines the changing behaviour of firms in the 1990s, both from the Engineering Sector (ES) Census of the engineering sector as a whole, as well as from the much more detailed analysis of data collected from case study firms. The second assesses the changing behaviour, functions and roles of a number of the most important non-firm organisations in or related to the engineering sector.

In Chapter 8, the conclusions of the thesis are presented. Various strands which are explored in the earlier chapters are drawn together in this chapter to present a unified analysis of the patterns of industrial change in Zimbabwe during the 1990s. Some suggestions concerning the prospects for future industrial development are presented alongside various policy options to improve those prospects. Finally, several areas are recommended where further research could add value to Zimbabwe's efforts to improve the development of its manufacturing sector.

2. ANALYSES OF INDUSTRIAL DEVELOPMENT IN THE CONTEXT OF STRUCTURAL ADJUSTMENT

Since the independence of many developing countries in the 1950s and 1960s, there have been various perspectives on how best to encourage their industrialisation. More recently, there has been a limited amount of research that aims to analyse the consequences for industrial development of structural adjustment programmes. This research contributes to this analysis. Debates on industrial development have also been shaped by the experiences of the late-industrialisers in East Asia, as well as by studies of the impact of trans-national corporations and globalisation on industrialisation prospects. This chapter will review this literature.

The approach of the thesis is primarily empirical (see Chapter 3), but it is important to spell out the theoretical underpinnings of the approach being taken. The aim is to apply an institutional approach to the subject, which takes into account agency, linkage and structure. The importance of using the tools of political economy to improve understanding of institutional dynamics is highlighted throughout. Concepts of path dependency and of institutional legacies are developed as the fundamental theoretical tools for the research. A number of empirical studies have attempted to use similar approaches, or examine similar questions. These provided the inspiration for this thesis and are reviewed in the last section of this chapter.

2.1 INDUSTRY AND ECONOMIC POLICY SHIFTS

2.1.1 Evolution of Policy Frameworks

Structuralist approaches to policy-making were adopted by many developing countries during the 1960s. Governments, often newly independent, saw the need to make up for various structural deficiencies associated with their 'underdevelopment'. The prevailing wisdom was that without doing this, developing nations would be condemned to a marginal life on the periphery of an economic system dominated by advanced capitalist countries (ACCs). The potential for catching up with the ACCs was limited without the industrial development required to counter the impact of continuously deteriorating terms of trade for their primary

commodity exports (Mytelka, 1989). Structuralism was associated with policies of import substitution, which required government regulation of exchange (prices, wages, exchange rates, imports etc.) to create a protected environment for the emerging manufacturing sector.

During the 1970s, a groundswell of opinion started to build, which was critical of public intervention, especially in the form of protection, in support of industrialisation.¹ It was argued that interventionist policies had caused more problems than they solved. The 'market', notwithstanding various imperfections it might still have had in developing countries, was seen to have fewer serious failures than those brought about by the economically wasteful or directly unproductive profit-seeking activities (DUPs) of rent-seeking elites dominating national state and power structures.² Consequently, in the 1980s, with the onset of the debt crisis, IFI-led policy packages were promulgated throughout the developing world. Demand reduction (stabilisation) policies were to redress short-term macro-economic imbalances. Economies were to be restructured on the supply side, over several years, through structural adjustment programmes (SAPs).

Apart from reductions in public expenditure, SAPs were typically a package of liberalisation measures aimed at moving various 'factor' and product markets (for inputs and outputs, labour and finance) away from inefficient outcomes. Inefficiencies were seen as resulting principally from price distortions maintained by inefficient state interventions. In their earliest and simplest formulation, the programmes were designed to get prices right, giving incentives to economic agents to participate more efficiently in the various markets. SAPs usually included measures to downsize most organisations in the public sector. Government's role in directing the economy was to be limited to creating an enabling environment for private economic agents to maximise their utility functions.

The measures were predicated on the belief that autonomous economic agents acting to maximise their own utility in efficiently operating (where prices reflect scarcities) and unfettered markets (without unnecessary government interventions) would also maximise

¹ This grew out of studies by Balassa in the 1960s, which found that faster export growth was negatively associated with higher levels of protection (see Balassa (1965) and reference to his work in Edwards (1997)).

² On rent-seeking see Krueger, (1974), on DUPs see Bhagwati, (1982) and see critique in Section 2.1.3 below.

social utility (Lall, 1995). The emphasis was on ensuring that the process of exchange works effectively. Production choices flowed in a deterministic way from incentives created in the market. This belief was based on a raft of restrictive assumptions, the challenging of which forms the basis of many of the critiques of the approach.

Serious criticism was also provoked as a result of SAPs' failure to improve the plight of most of the economies in which they were implemented, especially in sub-Saharan Africa. Some of the principle problematic features were the failure to increase productive investment, alleviate poverty and provide more productive employment for the majority of the implementing country's population. Initially, the response to these criticisms was to broaden the scope of the programmes with the addition of infrastructure, education and training components. More recently, components were tacked on to SAPs to reduce the negative social effects (White, 1996:790-1). Influenced by the experience of the East Asian countries, more emphasis was placed on the need to have effective research and policy-making organisations within government. Capacity building programmes were being promoted alongside or as part of SAPs, at the same time as civil services were being cut as part of fiscal discipline (Ravenhill, 1993). Overall, however, there was no fundamental re-think away from neo-classical economic orthodoxy as the foundation of the most appropriate approach to economic policy making. The underlying belief is still one centered on the need to get markets working as effectively as possible. More and more subsidiary policy initiatives are added to SAPs to deal with the inherent contradictions and consequent problems that, unsurprisingly, arise in trying to make that happen.

Many assessments of structural adjustment have been made during the 1980s and 1990s. The World Bank has undertaken a number of cross-country evaluations of its lending experience. Two of the most recent are *Adjustment in Africa* (1994) and *Structural and Sectoral Adjustment: World Bank Experience 1980-92* (Jayarajah and Branson, 1995). Their general analysis is reflected in that on the industrial impact, reviewed below.

Critiques of the impact of SAPs have been provided in many papers and books over the past decade and a half. Many of these are covered in literature reviews by van der Geest (1994), and White (1996). Various problems with SAPs are highlighted, as well as problems in assessing their impact. The latter include difficulties with projecting the past in before-and-

after analyses, problems in constructing convincing counterfactuals, and difficulties in attributing causality to the changes that do happen in the face of a lack of a convincing theoretical base (White, 1996:792). The theoretical problems at a macro level are tackled critically by Tarp (1993), who indicates the limitations of the implicit constructs used in the World Bank's Revised Minimum Standards Model (RMSM).³ For example, in the model, growth is driven by investment, which is driven by savings. The SAPs finance is to fill the savings gap. The critical problems are assumptions of constant technology, explanatory variables omitted, and behavioural models which are far too simplistic.

Mosley, Subasat and Weeks (1995) point out that the regressions which form the basis of the conclusions reached in *Adjustment in Africa* are problematic to replicate from the same data and subject to significant variation if similar, but different data are used. Lall (1995:2023-26) conducts a similar exercise using alternative data and produces much less certain and significant results than the World Bank. Even when he does find that the growth of manufacturing value added (MVA) is higher in policy-improving countries, he suggests that this merely reflects differences in macro-management, but says nothing about causality. These critiques, often themselves poorly founded theoretically, have yet to be taken seriously by the IFIs, which remain stubbornly committed to the essentials of elements their orthodox approaches, despite the efforts of the Japanese (Wade, 1996).

At present, therefore, we are at a watershed between the growing realisation that the approach adopted for the last decade and a half has failed to produce the anticipated results and the adoption of an alternative approach. This thesis aims to contribute to the search for an improved understanding of what is required to encourage industrial development in sub-Saharan Africa in general and in Zimbabwe, in particular.

2.1.2 Analysing Industry in Africa under Structural Adjustment

Views of the World Bank

Several examinations of industrial performance under structural adjustment have been made

³ For an insight into the lack of consistency between the IMF short-run (Polak) model and World Bank's long-run RMSM model, see Fine (1994).

during the 1990s. The World Bank's multi-country studies cited above include reviews of impact. Within the Bank's framework, trade policy reforms are perceived to be the main instigator of improvements in the manufacturing sector. Typically, this view has led to the adoption of a combination of measures to liberalise access to imports (improving access to foreign exchange, eliminating non-tariff barriers and reducing tariff barriers), and to restructure incentives to promote exports, including through devaluation (see World Bank, (1994) Chapter 3). These have been complemented by the removals of price and other controls on goods, labour and finance, as well as anti-monopoly measures in some countries. In practice, however, it is only rarely that "adjustment programmes remove barriers to entry, exit, or expansion" (Jayarajah and Branson, op: cit:188), or directly tackle other structural constraints at the sectoral level.

The Bank's findings tie improvement in industrial and manufacturing growth to the adoption of improved macroeconomic policies (World Bank, 1994:149-152). Jayarajah and Branson (op: cit) identify negative impacts on industry of declines in the provision of public infrastructure and the negative impact on investment of high real interest rates. However, "a period of slowdown or even reversal of sectoral growth may be perfectly consistent with increased efficiency of resource use in the industrial sector" (ibid.:191). Most successful adjusters were found to have better implemented their policy shifts. De-industrialisation is rejected on the basis of evidence of "much activity particularly among smaller enterprises not included in official statistics" (World Bank, 1994:149).

Relatively dynamic performance, as well as higher tendencies to invest, to export and to employ higher skills, of newer enterprises, are cited in *Adjustment in Africa* as cause for optimism about industry's prospects. Yet, it is certainly not evident that many small enterprises are either sustainable firms, or capable of growing beyond their small size. New enterprises will only be able to enter competitive markets if they have some advantage over the existing participants. The former grow quickly during their start up phase, as they expand to fill the market space their advantage offers. Over time, these advantages erode as existing firms react to the new entrant, or as other newer and yet more dynamic firms enter. What is of greater importance, therefore, is the performance of the more mature firms, which continue to employ the great bulk of the industrial workforce. Neither of the recent Bank documents provides conclusive evidence concerning the impact of the reforms on such firms. Indeed,

more generally "serious research on the impact of structural adjustment on industry is scarce. This applies in particular to impact studies of medium and large-scale industries" (de Valk, 1994:235). Jayarajah and Branson suggest that to discover definitively why some countries have fared better than others requires detailed study of individual cases (ibid.:195).

The World Bank launched the Regional Programme on Enterprise Development (RPED) in the early 1990s. It has carried out firm level surveys in several African countries. These surveyed panels of firms over three consecutive years examining many aspects of firms' behaviour and performance. A number of cross country reports have been produced to date (including Biggs, Shah and Srivastava (1995), Biggs and Srivastava (1996), and Biggs and Raturi (1997)), as well as a number of country-specific analyses, including several on Zimbabwe (see Chapter 4 below). The implications of firm level studies are mostly commented on in the comparative sections in the firm level analysis assessed in Chapter 5.

The RPED results have been reported on subsequent to *Adjustment in Africa*. Biggs, et. al. find that "there is considerable heterogeneity in the average technical efficiency of firms" (ibid: 1995:61). Some firms appear to be highly efficient, while average efficiencies tend to be significantly lower than comparators from Asia and Latin America. Efficiency is improved by developing production and investment capabilities through learning mechanisms, although in most cases these are very weak. There is also considerable evidence of downsizing among larger firms (especially in two of the four countries reported on), which the authors find "troublesome" (Biggs and Srivastava, 1996:45). It is suggested that "it is becoming clear that microeconomic factors are critically important in conditioning the speed and response to policy reform." (Biggs and Raturi, 1997:2). Through the use of econometric estimates of orthodox production functions, technological capabilities of workers and managers are identified as being major determinants of firm level productivity. This analysis identifies such determinants as important, however, so that the data can fit the regression. The focus then shifts to how to improve these capabilities. It is implied that the overall policy framework is satisfactory, although cautious support is given to infant industry arguments (ibid.:33). Most recommendations are aimed at individual industries and firms.

Most of the detailed research is useful for comparison with the data collected for this thesis, and is reviewed below. Most of the published comparators from the RPED research to date

are based on the first round of surveys only and, apart from size changes, provide a static picture. Very little information has been published on changed practices under SAP reforms.

Critical Perspectives

A comprehensive review of critical literature is provided by de Valk (1994). Typically, critics suggest inadequate attention is paid to structural weaknesses which are the root of the problems of industrialisation in Africa (Lall, 1992, Stein, 1992). Riddell explains the industrial growth seen from the mid-1960s to 1980 in several case study African countries, as resulting principally from growth in domestic demand (1990c:33-35). SAPs with their downward pressures on real wages, and moves to higher prices in deregulated goods and capital markets, directly depress domestic demand and therefore domestic manufacturing.

The most pessimistic critics suggest SAP policies "are likely to de-industrialize, forcing countries into a problematic reliance on resources and agricultural exports" (Stein, 1992:86). Interest costs of foreign loans, and foreign inputs costs escalate considerably with devaluation. Domestic financing costs escalate with financial liberalisation. Cuts in publicly funded infrastructure expenditure inhibit export-oriented manufacturing. With moves to an uncontrolled foreign exchange market, competitive consumer goods are often imported, instead of now more expensive capital and intermediate goods. (ibid.:88-9). These imports put pressure on domestic producers to cut costs to compete, rather than taking advantage of cheaper equipment to invest in improving their productive efficiency.

The Bank agrees some firms and sectors are likely to be losers, as resources are reallocated (see above). White asks when is this efficient and when is it de-industrialisation (1996:798). Regardless of problems over the definition of 'de-industrialisation', this is a difficult question to answer. Implicit in the concept is the notion that some African countries had achieved a certain level of industrialisation, which is doubtful. Even in Zimbabwe and South Africa substantial proportions of the officially recorded manufacturing sectors are processing industries immediately downstream from primary production.⁴ Put more subtly, SAPs "have had little success, except for the greater utilisation of capacity permitted by newly

⁴ See Fine and Rustomjee (1996) for discussion of "manufacturing" definitions in the context of South Africa.

available foreign exchange. While important in the short-run, greater utilisation of capacity cannot be a source of *sustained* growth in total factor productivity" (Pack, 1993:4). Nor is a positive output response necessarily a sign of improved efficiency (White, 1996:799). While the macro-stability pursued through adjustment policies may well be necessary, further industrialisation requires additional investment in productive activities.

The lack of industrial investment is one of the greatest problems that has beset many countries going through structural adjustment. For Mkandawire "too few skilled wealthy entrepreneurs exist to rationalise denationalised parastatals or exploit incentives to manufacture tradeable goods. Unable to use the state ... African economies await, in the absence of indigenous capital, the arrival of foreign investors who remain skeptical about export-oriented industrialisation in Africa" (1991:147). The implication of this view is that accumulation remains problematic in many African countries. Nonetheless, it is undoubtedly the case that accumulation is taking place in some sectors of the economy and that, in most African countries, financial institutions can recycle savings. The questions are whether sufficient funds can be generated for new productive investment and, if so, why that investment is not taking place.

Many critics have reverted to the implicit structuralist beliefs that markets could assist in solving many of the problems, if only their structural weaknesses and imperfections could be corrected. Otherwise, government failures are again replaced by market ones (Lall, 1995:2022). Unfortunately, in sighting their criticism, there is a temptation to set up the World Bank as something of a monolithic strawman. The portrayal of the implications of the orthodox assumptions can thus be rather crass (for example, see *ibid.*:2020-21). Nonetheless, the criticism of the partial nature of the neo-classical orthodoxy underpinning SAPs is not misplaced. Changing price incentives at best may only be part of a solution. Attention is also required purposefully to develop capabilities and institutions (Lall, 1993), in order to create a national system of innovation (Freeman, 1987). Such an approach implicitly calls for a more gradual and longer term approach to the development of policies for industrial development, and "institutional change as a pre-requisite for strengthening innovative activities" (Andersen and Lundvall, 1988:12).

Higher levels of technological capabilities are required to improve the productivity of new investment (Lall, 1992, 1993 and 1995, and Enos, 1991).⁵ In sub-Saharan Africa, these capabilities have been inhibited from developing by the inadequate development of managerial, technical and entrepreneurial skills. The latter are complementary capabilities to the technological ones. Without them and without a range of supporting organisations, it can be exceedingly difficult to enter into activities with more complex technologies. While the highlighting of technological capabilities themselves does not move us away from an extension of orthodoxy (Biggs, et. al., 1995), critics emphasise that liberalisation alone is fundamentally ill-equipped to address skills shortages and technological deficiencies (Lall, 1995:2027-28).

Many varied institutions are required to support the development of firm level capabilities in such areas as export development, industrial standards and training, and technology (Lall, 1992:121). Typically these have also not developed, partly as a result of the scarcity of skills. Supporting organisations are poorly managed and funded. They are not well linked with the firms they are intended to support. Many of the SAP changes contribute to these weaknesses. For example, cutting education and health programmes negatively impacts the volume and efficiency of their delivery,⁶ and, thus, the development of human capabilities required to boost productivity.

Many critics also agree that given the variety of structure and experience between different countries, the best way of improving our understanding of the relationship between SAPs and industrial development is through more detailed individual case studies (Lall, 1995:2024). This is part of the rationale for the focus on Zimbabwe in this thesis.

Drawing from the East Asian examples (see below), many critics have identified the need for the formulation and implementation of effective industrial strategies (de Valk, 1994:236 and Lall, 1995:2027). This implicitly requires a more active role for public institutions, which

⁵ While the development of technology is a major contributor to industrial development, this is not a principle focus of attention here, as it has played a relatively small role in Zimbabwe's recent industrial experience (see Chapter 6).

⁶ See indicators for health and education changes in Zimbabwe in the 1990s (World Bank, 1996a) revealing that there was a sharper decline in the delivery of health services than in education delivery.

implies "the launching pad of any reform must be improvement in government capabilities themselves" (de Valk, loc. cit.).

Shortcomings

In any review of literature on industrial development under adjustment in Africa, a number of deficiencies or unresolved areas become apparent. There is near universal agreement that SAPs have not been as successful in boosting an industrial supply response as was initially hoped, although the extent of their shortcomings varies significantly depending on the perspective of the commentator. There is scope for more detailed case study work at the level of the individual country and individual firms to establish more precisely what exactly has been happening, particularly to pre-existing medium and larger enterprises.

Overall, the literature raises some serious questions about whether the changes in relative prices can achieve very much at all. As Amsden (1997) has pointed out, the recent preoccupations of most development economists with trade and fiscal policies has led to very little focus being given to micro-economic questions of production. Much greater attention has to be paid to the institutional framework supporting industry. What is missing from most of the above analyses, is a sense of why the economic agents that are formulating and implementing policies should decide to act in ways that are most supportive of industrial development, and to develop institutions and their capacities accordingly. Further discussions relating to this are covered within political economy literature.

2.1.3 'Capacity Building' and the Importance of Political Economy

One of the unresolved contradictions within the debates around SAPs concerns the role of the implementing agencies. For government to implement policy change well, even within the neo-classical view, access to good data about what is happening in the economy is essential. Government organisations need to be able to utilise the data to improve the predictability of the environment for private economic agents, enabling them to make rational choices. Government needs to be able to make and implement effective policies. Furthermore, implementation needs to be monitored and corrective action taken, if policy outcomes are not in accordance with expectations (or aspirations).

It is certainly not clear *a priori* that, for a government which has demonstrated low or declining capacity in the past, cutting its budget and the size of its public service is the best way of improving its capacity. For example, to privatise state assets efficiently, without huge subsidies to the potential purchaser, requires the government to rationalise existing operations. If it can achieve this, it is not clear why it should not be able to run the organisation efficiently over time. This requires a careful examination of the details of the institutional capacity to formulate and implement policy.

The emphasis on issues of capacity is related to questions of why government organisations should be efficient or not; what might be the motives of those running them; what interests they might represent in their broader society (see above); and, how all of this might affect a government's ability to develop and implement economic policies. The orthodox approach underpinning SAPs has suffered from the lack of a convincing theory of the nature of the state and its role in and relations with society. Consequently, despite an emphasis on developing better policies, as well as institutions within public and private spheres, within orthodoxy (and for many of its critics), there are no clear proposals as to how this is to be done, by whom and why this should be more effective than past efforts.

The structuralist critiques have also added little to our understanding of the dynamics of the state. At their best, they are good at identifying what the government should be doing better in order to develop institutions with more effective capabilities, as well as what those institutions should be doing. It is suggested that capabilities cannot be built quickly, and considering the low level of capability in most sub-Saharan African countries at present, few answers are provided as to how to move from the current situation to a better one. For Lall the answer is that for the short term it may be better to allow the market to play a greater role (1992:126). There is evidence from South Korea, however, to suggest that it is possible to develop public capacity relatively rapidly, through learning-by-doing (Chang, 1994).

Furthermore, structuralist approaches do not address the issue of what might encourage policy makers in trying to implement policies and practices aimed at improving the prospects for industrialisation. A strong assumption of benevolent political leadership is frequently made. Without addressing the political forces that might lie behind and influence the orientation of that leadership, such an approach begs the key questions.

New or neoclassical political economy (NPE) arose partly as a result of a desire within orthodoxy to expose the reasons why active economic involvement by government is often apparently associated with poor economic management; why policy shifts are hard to achieve and are not implemented fully; and, why even once implemented, they may be subject to reversal. All of these have happened in sub-Saharan African countries implementing SAPs.

NPE has populated the state with the same type of rational, self-seeking, atomistic, utility-maximising individuals,⁷ that populate neoclassical economics (for example, see Srinivasan, quoted in Meier (1991a:5)). The state is seen as a tool of exploitation for the benefit of the dominant groups within it (Findlay, 1991). Consequently, it is important to have its influence on economic life kept to a minimum to limit opportunities for rent-seeking by these groups and for engaging in DUPs, such as lobbying government officials and policy makers to give favours. DUPs are seen to be activities which waste resources in pushing redistribution, rather than in productive income generation. As noted above, such theories underpinned attempts by the IFIs to reduce the role of the state in conjunction with the implementation of most SAPs.

There are a number of problems with NPE.⁸ These include its static character. In most variants, there is no theory to account for changes in the influence of dominant groups and power and, therefore, changes of policy orientation from within the government. Thus, as with the structuralist views noted above, there is "no logically apparent means of moving from bad to better (apart from) the exogenous introduction of wise statesmen or technocrats who are above petty political rationality" (Grindle, 1991:58). The shortcomings in this regard include the omission of patterns of accumulation in a particular setting, which would give an economic dynamic to the purely political issues around challenges to and transfers of power (Chang, 1994:21). NPE also tends to omit consideration of 'institutional variation', which influences and restricts a variety of ways in which social groups are able to influence those in government (Haggard, quoted in Meier, 1991b:272-3).

⁷ In new political economy, what is maximised may be presented as power or votes. Effectively this is the equivalent of utility, as it also gives access to resources.

⁸ See Chang, 1994 for an excellent typology and critical overview.

Rent seeking need not be socially wasteful. Rent seeking in some form will occur as long as governments exist and implement policies (Rodrik, 1993:20). For capitalists, the opportunity to gain short-term monopoly rents is one of the main drivers of Schumpeterian innovation. Moreover, an important way for capitalists to communicate their needs is to lobby government. There is a difference between rent-seeking and rent-finding, however. The former can assist in developing more appropriate and supportive policies to meet industries needs, while the latter, when it takes the form of gaining long term and unchecked monopoly power, can be destructive.

Bureaucrats may not be purely self-seeking either. Depending partially on locally established norms and the history of local public institutions, they may exhibit public spiritedness and organisational loyalty. Equally, this cannot be assumed. Political principals may need to provide benefits to individuals and groups throughout the political hierarchy, which would mean that bureaucrats' interests might well be compromised (Grindle, 1991). Removing the rational self-interest assumption reduces the deterministic nature of the NPE analysis and opens it up to the possibility of great variation in the explanations of political economy outcomes. This again calls for a much more specific analysis of particular institutions and circumstances to improve any understanding of policy decision making.

These contrasting perspectives were part of the debates, concerning the relative merits of state regulation versus market regulation of the economy, which flourished through the 1980s and early 1990s (see for example, Evans et. al. (1985), and Colclough and Manor (eds.), (1991)).

After 1989, with the publication of the Long Term Perspective Study (LTPS), (World Bank 1989), issues of governance were raised for the first time (Callaghy, 1993:477). Initially the major concerns were building policy formulating capacity at the same time as diminishing opportunities for corruption. These soon translated into concerns about improving the prospects for both political and economic liberalisation. This is of less relevance to Zimbabwe, which has not experienced any form of significant political liberalisation.

Nonetheless, there is nothing deterministic about the relationship between the political system, democratic or other, and the types of inter-linkage and patterns of agency between

those in government at the political and executive levels and the rest of society. The lack of improvement in adjustment programmes following so-called democratic transitions in a number of African countries in the early to mid-1990s has disappointed the IFIs and their backers (see Williamson and Haggard (1994), Gordon (1996) and Bienen and Herbst (1996)). This has led to further interest in the relative effectiveness of relevant institutions (including those of government and markets). Whether a regime is democratic or not, for effective policy making, there appear to be requirements for institutional effectiveness as outlined above. Yet, noting that the capacity of institutions may not be dependent on the type of political regime does not provide an answer to the question of how governments can be made to work more effectively to promote industrial development.

One approach has been to examine how government organisations can at the same time improve their effectiveness and be more responsive to the needs of their social partners in industrial development. Evans (1992) developed the concept of "embedded autonomy" to explain why the East Asian "developmental states" were able to be successful. According to this view, those making policy in government were kept distanced from rent-seekers, in order to maintain their autonomy, and yet were close enough to their broad society to be able to respond to its needs in a timely fashion. This concept is based on a contradictory mix of bureaucratic insulation and intense immersion in surrounding social structures (for a summary of critiques, see Fine and Rustomjee (1996:58-63)). This view separates the state from the class interests represented through it and even suggests that "class structure must be seen, at least in part, as the product of the state action" (Evans, 1992:179). Yet, this begs the question of how those dominating state institutions develop their interests, which leads back to an examination of the relationships between the evolution of class forces and state institutions (which are explained in more detail below).

More recently, much effort has been placed on improving the analytical account of the state and the nature of its relationship to society and economic development (see Fine and Stoneman (1996) and Fine and Rustomjee (1996)). In its best formulations, this has moved beyond the state: market dichotomy. It is the dynamics of the relationship between those active in the market and the individuals and organisations in government, that differentiates one setting from another and that will influence economic prospects. This is explored further in the theoretical section below.

Most critics of NPE do not provide an explanation of the diverse motivations of different economic agents, individually, or collectively. They assume that, not only are there publicly motivated political leaders and bureaucrats (see above),⁹ but that these individuals can establish a position of dominance within the public institutions in order to introduce their proposed policy changes. It is further assumed that there can be sufficient separation of the government (or these benevolent individuals within it) from parasitic elements within wider society, to successfully carry out its programmes. The empirically driven need to combine this autonomy with social embeddedness shows up the emptiness of such analysis, unless its foundations in an analysis of class relations and conflict is taken seriously.

To some extent Chang (1994) gets close to moving beyond this, when he mentions the need to examine patterns of accumulation. Yet, while he does not mention the need to examine shifts in class and power relations, investigating such shifts might provide a more satisfactory understanding of agency (see below).

There is a need to clarify the dynamic relationships between institutional behaviour and change. This can only be done effectively, if at the same time the influences of the prevailing patterns of agency within the relevant institutions and social structures are ascertained. Without this, the exercise becomes little more than a descriptive process, examining various institutional structures. It would lack any possible pragmatic prescriptive power. The following theoretical section includes a further investigation of these matters.

2.2 INDUSTRIAL DEVELOPMENT APPROACHING THE MILLENIUM

This section addresses the question of what is considered possible for industrialisation in an international context. Much has been made in the literature of the difficulties of trying to industrialise at the end of the twentieth century. In the so-called "age of globalisation" and

⁹ See Grabowski, for example, who ascribes the pursuit of post-independence import substitution policies to "coalitions of individuals who held highly idealistic views of their responsibilities to their fellow citizens" (1994:420).

high speed travel and communications with few barriers to trade, most market opportunities have been used up by large TNCs based in the ACCs and the late industrialisers. These firms have built up significant competitive advantages, which become effective barriers to entry to firms from less developed nations trying to compete. Yet, as can be seen below, there are others who disagree about the extent of globalisation and its potential impact, suggesting that there is still considerable scope for domestic policy making to have an influence (see Weiss, 1997).

Similarly, many look to the examples of late industrialisation elsewhere, especially in Asia, and suggest that the reasons that it worked there provide lessons from which to apply learned wisdom to Africa. Others dismiss any potential relevance, suggesting that the conditions which pertained to support industrial development in East and South-East Asia were very particular, in terms of initial conditions, time and place.

Both debates are briefly examined, in order to assess the prospects for their relevance to, and implications for, industrial development in Zimbabwe. This is of particular relevance in two ways. Stoneman suggested, during the late 1980s, Zimbabwe was growing rapidly with a viable domestically controlled alternative to structural adjustment type policies (1992:107). He characterised that policy framework as "a more democratic and less single-minded version of the NIC model" (1995:7). If this was so, it makes the experience of the 1990s all the more unfortunate, but may offer some directions for the future. Secondly, the resolution of the matters raised in these debates is likely to have a very strong role in delimiting the options that Zimbabwe and its government might consider for the future.

Much emphasis has been placed on the important contribution skills development can play in industrial development.¹⁰ Yet, there has been considerable disagreement about the relative effectiveness of various institutional frameworks for skills development. Attention is paid to the role of skills and other aspects of human development in the development of industrial enterprises. These become the focus of much more detailed attention in the firm and organisational case studies presented in Chapters 6 and 7.

¹⁰ See for example Middleton, et. al. (1993), Chapter 2.

2.2.1 The Role of Trans-National Corporations and Globalisation

Most of Zimbabwe's older and larger industrial firms were either established by foreign-based firms, or by capitalists from other countries, mostly the United Kingdom and South Africa (Clarke, 1980). As a result, international capitalists have played a dominant role in shaping the pattern of Zimbabwe's industrial development. Those firms established by resident foreigners cannot be regarded as the same as TNCs. Essentially they function as local firms. Such capitalists may, however, be less inclined to reinvest their surplus in the host country. A concern arises therefore about the relative merits of different patterns of relationship between foreign and local firms in promoting industrial development.

Trans National Corporations

Much of the structuralist literature on the role of TNCs in the 1960s and 1970s emphasised problems caused by their exploitative nature, as they transferred national wealth by stealth.¹¹ Research on transfer pricing, inappropriate levels of capital intensity, a lack of technology transfer and training, the supplanting of local opportunities for accumulation (Fine, 1997:42), and remittance of profits led to hesitation in encouraging new foreign direct investment (FDI).¹²

In the 1980s, as part of the spread of economic orthodoxy through structural adjustment programmes, and with a decline in domestic saving, the emphasis moved to looking to international capitalists and TNCs in particular, as possible sources of capital (both financial and human) and modern managerial and technical input.¹³ Capital inflows from this source were seen as essential to take over and rehabilitate nationalised firms, as well as to provide new investment, employment creation and foreign exchange generation. It has been noted that many NICs developed with limited direct involvement by established TNCs (Nayyar,

¹¹ See Helleiner (1989) and Rasiyah (1995) Chapter 2, for an excellent overview of literature on transnational corporations, or foreign manufacturing capital. Hirschman (1977) was a structuralist writer who emphasized the more positive benefits of foreign capital.

¹² This was clearly seen in post-independence Zimbabwe (see Herbst (1990) and Chapter 4 below).

¹³ See Rasiyah (1995:9-12) for an exposition of the neoclassical arguments in favour of the spread of foreign manufacturing firms.

1978). Consequently, there has been a lack of consensus on the pros and cons of TNCs and local capitalists in promoting industrial development.

Classical Marxists have emphasised positive impacts on host countries, including the reduction of dependent ties to the advanced countries (Warren, 1973 and 1980), and the introduction and cheapening of technology (Emmanuel, 1982). Unlike neoclassical proponents, they suggest, however, that the ability to gain from such advantages is dependent on the particular political economy of the host country and the local government's ability to extract advantages from the foreign firms. Such writers have been, however, unable to indicate how states could benefit from TNCs, without destroying infant local firms.¹⁴

The relative merits of and relations between TNCs and local capitalists have been examined by Jenkins (1987 and 1990). He found that TNCs tend: to concentrate in the more capital-intensive and advertising-intensive branches of industry; to import more (from their sister firms); and, to pay higher wages. Yet, apart from these static differences, nothing is deterministic about the relationships between TNCs and local firms, or their respective performances. The presence of TNCs has led to attempts by domestic firms to respond to their competition by adopting similar production techniques and emulating other behavioural characteristics. Local technological upgrading has also occurred where TNCs sub-contract elements of their production, requiring higher standards from their local suppliers (Rasiah, 1995:26). These factors may have helped prepare those firms to compete internationally themselves.

For Rasiah, it is the superior productive capacity and access to market outlets which enable TNCs to play a positive role in industrialisation (1995:40).

Globalisation

The concept of globalisation is associated with reducing international barriers to capital movements; increasingly flexible production technologies, which could relocate production more easily; industries becoming increasingly concentrated internationally as globally

¹⁴ See Rasiah (1995:36-40) for a more detailed exposition of these views.

competitive corporations develop stronger competitive advantages and consequent barriers to entry; and, increasing competition between national governments for attention by TNCs (United Nations, 1992). As a result, a prevailing view developed in the early 1990s, that individual national governments were becoming increasingly powerless to discipline international capitalists. Accordingly, public policy should limit itself to investing in training and infrastructure to provide a more enabling environment in order to attract international capitalists.

Thus, orthodoxy emphasises the difficulties of creating new viable and internationally competitive enterprises locally and, hence, the importance of encouraging FDI by TNCs as the core route to industrial development. It also suggests, in a curious echo of dependency theory, that individual governments should not try to discipline TNCs too much, or countries will not attract new TNCs and may lose those they already have.

Recently an increasing groundswell of skepticism and doubt about the respective merits, validity and inevitability of globalisation has begun to appear (see for example, Hirst (1996), Rodrik (1997), Fine (1997), Pauly and Reich (1997) and Weiss (1997)). Such critics argue that the commitment of most TNCs is still to their national bases, as evidenced by the location of their research and development and strategic planning functions, as well as by where they turn when they need political backing. Furthermore, most manufacturing activity still takes place within the ACCs (Hirst, 1996:33). Pauly and Reich suggest that "the institutional and ideological legacies of distinctive national histories continue significantly to shape the core operations of multinational firms" (1997:3). This certainly does not imply TNCs are beyond the boundaries of being open to guidance and disciplining by national public institutions, in order to utilise them more effectively to support national development efforts. How this might be done will vary from place to place and industry to industry, depending on various institutional characteristics.

Internationalisation - rather than globalisation - presents opportunities for institutionally strong states to reap advantages from being able to push their firms and industries, and "assuming a dominant role in coalitions of states, transnational institutions, and private sector groups" (Weiss, 1997:24). Thus, extracting advantages from FDI will depend on the local institutional framework and the political economy of the local relationship between those in

government and local and international capitalists. Fine suggests "only a case study approach can unravel the complex net effects of inward investment" (1997:44).

Much of the literature seems to overlook the differences between host countries dealing with TNCs with existing investments and those countries' efforts to attract new FDI. It may prove to be substantially easier to exercise discipline over existing "sunk" investments than over firms considering new investment in a number of alternative locations. The latter can persuade potential hosts to effectively bid against each other to attract them. In Zimbabwe, with a preponderance of long-standing investment by TNCs, this difference becomes important (see Chapters 4 and 5).

2.2.2 East Asian Lessons: the State of the Debate

The development paths of the East Asian countries have not been homogenous. The North eastern countries, Japan, South Korea and Taiwan, have grown distinctly more quickly since the early 1960s, than the South Eastern countries such as Indonesia, Thailand and Malaysia (Chang, 1997). Nonetheless, the latter group have also experienced more rapid growth and industrialisation extent than most other countries during the past four decades. The particular characteristics of those paths vary significantly from country to country. Nonetheless, for over a decade, analysts have been trying to characterise more generally what has made several countries in the Asian region so comparatively successful (see for example, Scalapino, Sato and Wanandi (eds.) (1985), World Bank (1993), Chang (1994), Rodrik (1995)). There have been efforts recently to extract lessons for Africa from the Asian experiences (see, for example, Robinson and Tambunertchai (1993), Brautigam (1994) and Stein (ed.) (1995)).

There are many possible lessons from East Asia concerning late industrialisation. This work attempts to encapsulate the major areas of the debate, which are relevant for the examination of the Zimbabwe experience. The lessons emerge from the policies and strategies themselves. They also arise in terms of the political economy frameworks which enabled those policies to be developed and implemented successfully. Each of these is examined in turn.

Much of the literature encounters a difficulty in defining what is meant by “industrial policy”. For the World Bank (1993), it means the use of policy instruments selectively across industries. This implies that trade policy when applicable to all goods is not industrial policy, but if selectively applied it is. The World Bank's approach has been identified as inherently problematic and contradictory by a number of authors (see Amsden (1994), Lall (1994), Stein (1995a) and Wade (1996)). It seems to make more sense to embrace all types of policies affecting the manufacturing sector, whether selectively focussed within manufacturing or not.

Chang (1997) gives an up-to-date overview of the evolution of the analyses of the major factors which are used to explain the success of the NICs. It is now accepted by substantial numbers of authors from a variety of perspectives that there were significant government interventions which assisted in propelling the pace of industrial development in many Asian countries above that in other regions. Among what is usually known as trade policy, these included a combination of infant industry protection with export promotion at an early stage. The latter was conducted through a wide variety of support mechanisms, including subsidies, finance, information, and quality control. The export dimension was important to circumvent constraints on capturing economies of scope and scale in domestic markets of limited size, and to generate sources of foreign exchange. The latter would finance imports of technology to continue catching up to international best practice.

On the industrial policy side, Chang (1997) identifies some areas of particular importance in addition to the familiar state-sponsored development of infrastructure, education, and research and development, as well as the recognition of key industries to target for development. These include the control of luxury consumption in the early stages of development, the regulation of entry and capacity, as well as other more direct promotional measures to assist in the capture of scale economies domestically, while firms are learning to become competitive exporters. The control of levels of competition was a particularly important way of increasing scale and productive efficiency at the cost of reduced allocative efficiency. Chang suggests the latter costs are a small fraction of the opportunity costs forgone if scale economies are not achieved (ibid.:21).

Rodrik (1995) makes a convincing argument that the critical factor in enhancing growth in South Korea and Taiwan was the sharply increased levels of investment in the early 1960s. This was more important than the growth of exports. Exports accounted for a relatively low percentage of GDP in that period, and thus could have been responsible for only a small fraction of overall growth until the mid-1970s (ibid.:68). Similarly productivity spillovers from exports could also only have been responsible for a small proportion of growth. While Rodrik falls into the trap of accounting for the good performance as a result of positive initial conditions (see below), he does indicate the importance of government's role in creating the investment boom.

There is no space here to debate the relative merits of export-led versus investment-led development. Both strategies have a role to play. The Zimbabwe case study examines what happened to both exports and investment since 1965 to understand better where some of Zimbabwe's problems may lie. In both cases, there is also the need for effective institutions to lead and implement the adopted policies.

Institutions and Political Economy

There is an implicit and unjustified bias in orthodox views. The latter portray the development of efficient government institutions as inherently more complex and problematic than the development of efficient market institutions. Yet, the best empirical research on East Asia contradicts such views. A number of authors have highlighted the advantages of: "getting the prices wrong", to create opportunities for accumulation, in order to provide incentives and resources for investment; coordinating investment across industries in order to maximise the benefits of potential linkages (see below); and promoting various sectors in turn, as other parts of the world achieve greater competitiveness in those areas already established (see Amsden (1989), Wade (1990), Akyuz and Gore (1996) and Chang (1994 and 1997)). However, a number of other countries (especially in Latin America) tried to use similar policies with a notable lack of success. Thus, while in principle copying policies may not be too complex, in practice adopting other countries' policy frameworks and implementing their policies is more so.

The Asian success in implementation appears to have been a combination of the dynamic capacity of the public organisations themselves, as well as facets of the way that government organisations were integrated into wider society.¹⁵ The lessons need to be extracted at two levels, therefore. These include accounting for organisational successes, and examining the political economy of particular countries. The former requires attention to organisational capacity, professionalism, and motivation of those people staffing the public sector (see, for example, Grindle and Hilderbrand (1995) and Slater and Jackson (1996)). The public sector also has to place a high priority on economic performance (Rodrik, 1995:91).

Political economy arguments include the need to identify patterns of agency in economic management. The problems with arguments ascribing success to state autonomy have been noted above. Yet, little of the critical literature moves beyond this. For example, Stein (1995a) pays little attention to the reasons favouring a dynamic approach to development in the NIEs, so that state-administered policies could be developed and implemented. Rodrik stresses the importance of the relatively low inequality of income and wealth (ibid.:92). Although this helps explain the difficulty of monopolisation of the state structures by particular class, Rodrik still reverts to autonomy to explain the insulation of policy implementers from pressure groups. He does, however, highlight the separation of the political leaders from the bureaucrats, which enabled the former to monitor and supervise the latter and ensure they did not choke off entrepreneurial initiative by "sticking too closely to the letter of the law" (loc. cit.). Yet again, he encounters the problem that the supervision had to be on the basis of lobbying from the business community, but does not fully explain why this was able to promote efficient interventions, rather than inefficient ones. Thus, there appears to be room for further analysis of what determined the development of the particular political economies in the NICs and what enabled those countries to develop efficient and effective institutions to support and implement their industrial policies successfully.

Many more orthodox arguments have been made about the more favourable initial conditions in Asia, in terms of well educated and competent bureaucrats in East Asia, and the implicit difficulties in replicating those conditions (World Bank, 1993, 6). The conditions had been developed themselves, however, by earlier governments. At the end of World War 2, the NICs were not nearly as distinctively endowed as they were 15 years later (Chang, 1997).

¹⁵ These exhibited considerable variety (Whitley, 1992)

Development of the NICs institutions was not as unique as is sometimes portrayed. The development of institutional capacity was pushed through relatively quickly (Chang, 1994). Arguments against the possibility of a similar development happening in some African nations, therefore, are less solid than they first appear. From the perspective taken in this thesis, it is impossible to address the questions of institutional reliability or adaptability without a more detailed examination of particular national institutional frameworks and histories. This is attempted in the analysis below.

Finally, relatively little attention is paid in the above literature to the relations between either government or business and organised labour in the Asian countries. Emphasis was given to keeping real wage increases below productivity increases and repressive policies were implemented towards organised labour (Brautigam, 1994:125). However, there was strong emphasis on improving the social wage by controlling prices of wage goods, and through the provision of social goods (Stein, 1995b:11). Over time, wages have "risen relatively quickly in response to and in order to induce productivity increases" (Fine and Rustomjee, 1996:35). Again, as with the other policies, there was considerable variety over time and across countries. Productivity improvement was based on both technology improvement and on increasing skills, to improve technological capabilities. Government organisations typically played a major role in promoting both of these.

2.2.3 Human Development and Industrial Development

The term "Human Development" has been coined by Standing to encompass an integrated system of labour practices which are compatible with firms' dynamic efficiency and profitability (Standing, 1995, Standing et. al., 1996). This embraces skills, social equity, economic equity and democracy. Human Development Enterprise (HDE) indices can be constructed to reflect a firm's relative behaviour on these various criteria. To date limited information supports the view that firms with higher HDE scores have higher labour productivity, employment and higher unionisation (Standing, 1995:24-26).

The most basic components of the HDE are that firms should provide good opportunities for skills acquisition. The magnitude of skills development is not a guarantee of quality, however, or of who is being trained (Smith, 1995). Nonetheless, a range of research has demonstrated positive linkages between higher levels of skills and those of most important

ingredients of industrial development, namely productivity and technological change.¹⁶ Shackleton (1992) points out the difficulty of international comparative research and variations in training requirements across industries, which mean that more training is not always better. The negative impact of structural adjustment on training needs has also been postulated (Lucas, 1994). But as with the HDE analysis, few writers have yet attempted to examine these issues empirically.

It is not just the level and quality, but also the type of skill which is important. Lazonick has advanced the concept of the 'skill base', as the "foundation on which people engage in collective and cumulative - or organisational - learning" (1997:1). It is argued that Japan's international success relative to the United States resulted from its investment in broader and deeper skill bases. This, like the HDE index, is in turn related to issues of corporate governance and organisational integration. Lazonick provides preliminary historical evidence to demonstrate that it was the separation of the responsibility for technological development from shopfloor workers in the US and its integration with shopfloor work practices in Japan that contributed to the superiority of the Japanese in many industries.

Institutional aspects of skills development are also important. The more common constraints experienced by training organisations internationally include: inadequate financing; weak information links with employers; organisational fragmentation; overly rigid curricula; and weak management with limited autonomy (Middleton et. al, 1993:194-201). Publicly supported training can perpetuate itself, by creating institutions that then have to justify their role and depend on funding allocations for skills development. They lobby for increased funding allocations, by emphasising the gains available from increased skills development (Shackleton, 1992:77-79). There are also free rider problems associated with publicly supported programmes. Private provision only may lead to a lack of necessary programmes, however, due to collective action problems. Due to information constraints, quality problems may still arise with privately run programmes.

A number of theoretical issues arise in this analysis. These include for example the need to separate standard distrust of state organisations by private interests, from other more country-specific institutional characteristics. These are explored in the next section.

¹⁶ See for example, Daly, Hitchens and Wagner (1985), Steedman and Wagner (1987), Prais (ed.) (1990), Haskel and Martin (1993) (examining the impact of skill shortages), and Wood (1995).

2.3 THE THEORETICAL FRAMEWORK

Neoclassical analysis is predicated on the activities, preferences and expectations of the individual, rational, self-interested, utility-maximising economic agent. Such axioms give rise to many difficulties, particularly because they abstract from social relations, time and place. Any one of these might constrain, or influence the behaviour of individual economic agents, so that the assumptions widely applied by followers of orthodoxy are not tenable.

Structuralist analysis in its purer forms is based on the actions of and events occurring in a society, industry, or organisation as a whole. Often the motivating factors that propel these structures to action is absent, implied (the assumed benevolence of government wanting to develop its society), or ignored.

In contrast to these perspectives, this thesis uses as its theoretical foundation the proposition that social evolution results from a dynamic, non-deterministic, dialectical interaction of individuals and collective social structures, including firms, classes and other institutions.

2.3.1 Agency, Linkages and Structure: the Importance of Class

Fine and Rustomjee (1996) use the debates on South Korean industrialisation to demonstrate the concepts of linkage and agency. The former is a structural feature (albeit dynamic - *ibid.*:30) that indicates association between different activities, events or sectors (derived from Hirschman (1977)). By itself, however, without taking agency into account there is no opportunity of understanding causality, or the reasons that linkages do or do not appear. Within orthodox economics, agency comes from the atomistic individual. In structuralist analyses, agency (which is difficult to observe) comes from the structures being linked to one another. In a dialectical view, agency needs to take into account that impulses for change can come at different times from individuals and from social forces, structures or linkages. The use of class satisfies this latter criterion. Tracing the evolution of class assists in understanding the motivation of individuals and groups representative of class interests within the state and society (for example, trade unions or business associations).

Fine and Rustomjee argue that it is impossible to see the state constructed independently of the prevailing class structure, which conclusively dispels the myth of the state's autonomy. As such, external forces are instrumental through the state in alliance with particular class interests (*ibid.*:47). While there may be institutional constraints on individual actions



temporarily, the class which has, or gains, access to power will be able to change them and therefore the characteristics of the state. Gramsci suggested that the limits of the possible social actions are constrained by and constituted within the prevailing social structures, but those structures "can themselves be transformed by collective action" (Gill, 1991:55). Dominant classes can, through the state, also actively reshape class composition in order to entrench their position further. This process may be inhibited by institutional circumstances (see below).

Direct observation of the empirical assessment of social change and change in class forces is complex. The state is not a single entity, but is composed of both politicians and bureaucrats, who exist in many different institutions and organisations. It is unlikely that classes will be represented through each of these in the same way. This gives rise to conflicts and rivalries within the state. Similarly markets also comprise a range of institutions: in goods markets, for example, there are organisations that buy and sell; those that provide information on quality and prices; and, those that represent producers' and consumers' interests.

In order to make an assessment of social changes and their implications for economic outcomes, it is necessary to examine concrete events and situations in a particular society. One way of doing this, which is adopted here, is to analyse changes in the principal institutions that comprise social structures and relations.¹⁷ This has the advantage of leading us directly to potentially pragmatic recommendations to promote industrial development.

2.3.2 Path Dependency, Institutional Legacies and New Institutional Economics

One of the fundamental precepts of a critical institutional approach is that markets and their constituent institutions do not evolve naturally (see Polanyi (1944) for an early expression of this idea and more recently, Hodgson (1988)).¹⁸ They require adequate definitions of property rights, a reliable legal system and the recognition of established codes of business practice. This opens a potential role for government to influence the development of industrial organisation and other modern market-related organisations. "[B]usiness

¹⁷ See Chandler (1990), Lazonick (1991) and see Dugger and Sherman (1994) for a comparison of Marxism and radical institutionalism.

¹⁸ Hodgson describes as Panglossian the assumption that everything that exists naturally is good (1993:197).

organisations, not individuals play the central role in the production and distribution side of the market. Understanding how the state can promote different industrial structures to encourage more rapid growth and innovation would seem to be an important part of the strategy for Africa's future." (Stein, 1995b:5-6) In Asia, industrialisation was facilitated through a variety of government-led initiatives (ibid.:14-18). Markets develop, thus, as a result of the resolution of conflicts in the determination of economic policies and of government's capabilities to limit or control stagnant forces and enhance technologically dynamic ones.

The call for a prominent role for government to assist in promoting more effective markets, does not necessarily move us away from a neoclassical perspective, however. Writers from a New Institutional Economics (NIE) perspective certainly acknowledge the importance of the institutional frameworks for markets (North, 1990). It is the World Bank, after all, which has been leading calls for public sector capacity building, alongside SAPs, in the 1990s. In a curious example of ideological slippage, neoclassical theorists identify a role for public regulatory authorities to ensure that excessive market power is restrained. Surely, if effective markets were naturally occurring, this would not be required. The need for competition and regulatory policy suggests that the tendency towards increased concentration is actually natural - hence the possible need for it to be restrained. What distinguishes NIE, however, is the prime role attributed to prices (Stein, 1994).

A critical examination of institutions leads to factors other than those related to prices and markets emerging as important. For example, one of the key Asian success factors at the micro level was the development of organisations that were "able to encourage loyalty and trust" (Stein, 1995b:17). In Korea and Japan, for example, this was done through the development of large interlocking conglomerates (for an African example, see Brautigam (1997)). Trust and loyalty are also important within the firm. Firms with stronger trust and loyalty relationships encourage workers to be less self-seeking and opportunistic, which can improve the chances of the firm's success (Hodgson, 1988:211).

Within the broad neoclassical fold, the focus on institutional factors/transactions costs in NIE provides an extra set of tools in analysing policy issues. The only difference from a purer neoclassical position is that rational individual behaviour takes place against a background of institutions with transactions costs. Rational individuals are still assumed to want to minimise those costs (see, for example, Matthews (1986)). There have been a number of

efforts to increase the complexity of NIE.¹⁹ Yet, one of the inherent problems for practitioners of NIE is the difficulty of empirically validating the concepts (see Coase, 1993). In attempting to operationalise transactions costs (see Williamson, 1993), imputation and ascription of assumed costs has to be made, which may or may not approach the true costs of undertaking a particular transaction.

This thesis does not aim to make a profound critique of NIE, although it does use an alternative institutional analysis, based on fundamentally different premises than NIE. Many critiques of NIE approaches are already available. These include, for example, in relation to development, Stein (1994) and Harriss, Hunter and Lewis (eds.), (1995); in relation to business organisation, and in particular focussed on Williamson's work, Lazonick (1991); highlighting the implications of Williamson's neglect of social relations, Granovetter (1985), and, for a collection on various aspects of transactions cost economics, Pitelis (ed.), (1993). However, few critical approaches have been applied to the use of empirical evidence by developing countries.²⁰ This thesis attempts to start to address that gap.

One alternative to NIE is a structuralist approach. Hodgson, for example, sees that "the study of institutions offers a means of examining the basis of routinised action from the viewpoint of the system as a whole." (Hodgson, 1988:10).

In the dialectical approach taken in this thesis, there is neither emphasis on the primacy of the individual or of society. Giddens notes "The basic element in society is not the abstract individual, but the social individual, who is both constructive within and constructed through society" (1979:374/5). Such a dialectical approach sees institutions as social entities, having separate dynamics from those of the individuals which form them. Neither has initial primacy of existence or causality over the other. Institutions create recognised habits and routines, which guide and influence individual behaviour. For example, firms do this within durable organisational structures, embodying skills and experience with which to establish continuity, as the personnel within the firm changes (Hodgson, 1988:208). Yet, institutions are also subject to change according to the actions of those individual agents that comprise them. Revealing and understanding the dynamics of this dialectical process as it occurs

¹⁹ See Williamson (1985) for one of the classic works of NIE and Hodgson (1988) and Lazonick (1991) for critical appraisals thereof.

²⁰ Stein's useful article is a theoretical piece. Van Arkadie (1990) and Bangura (1994) are among those who have critically examined the disfunctionality of public institutions in developing countries. Both papers lack empirical specificity.

within the manufacturing sector is the task of this research.

To accomplish this, detailed studies of particular institutions are required in order to understand how conflicts between institutions, classes and individuals are resolved. Economic policy-making and change does not take place in a vacuum, but in a particular historical setting. "[H]istorically rooted institutions ... frame the choices of individuals and structure the terms of which issues such as agency problems and contract problems are confronted" (Zysman, 1994:245). Relevant institutions range from norms of behaviour, which may influence the way that contracting takes place, to firms themselves, which develop routines in productive behaviour.

As a result of diverse histories, therefore, the pattern of social relationships in production and exchange varies from society to society. The latitude for making effective policies is therefore constrained and defined by the particular evolution of institutions in a particular society. Understanding the nature of these constraints allows us to assess the prospects for the possibilities for success of particular policy shifts.

Institutional histories shape the nature of society at all levels, from the macro to the individual firm or worker. Yet, there is nothing deterministic about the various institutional forms that evolve. For example, "[I]n labour relations systems that embed powerful centralised national movements (Sweden) and systems that are part of a weak national labour movement (Japan) have supported rapid growth and productivity improvement" (ibid.:256). The social institutions of most interest are those which do not alter radically with each change in power. Zysman suggests that "while policy and corporate patterns are not immutable, they are deeply entrenched" (ibid.:259).

It is not clear in this approach, however, what it is about the institutional heritage that may constrain change in one situation and not in another. Of particular interest to this research is the question of what determines and maintains the established institutional habits and routines and, therefore, how they might be changed. Here this research returns to the above analysis of agency and linkages. While the identification of institutionally rooted path dependence is dynamic and assists us in understanding the prospects for, and some of the constraints on, factors around potential change, it cannot analytically address the question of change without bringing in agency. Accordingly, Zysman (1994) and Antonelli (1997) both look at how agents and structure (institutions) interact.

Much of the path dependency literature has been used to derive improved methods for examining patterns of technological change and structural change at industry and firm levels (see Zysman and Antonelli). Antonelli, for example, extends the structure-conduct-performance approach to industrial organisation, with the addition of a recursive feature, where the conduct chosen on the basis of existing structures may feed back and change the structure itself (1997:652). This creates, for example, the possibilities of dynamic barriers to entry, but falls short of being a dialectical approach.

The path dependency concept provides a way of understanding dynamics, but has most often been used to improve understanding of change in the advanced countries, where markets and institutional patterns are already well established (if not immutable). Below this approach is used as part of the foundation for an empirical examination of industrial change in a less sophisticated institutional environment. In order to integrate the concept of path dependence with the particular focus on its institutional aspects and bringing in the use of agency to assist in understanding mechanisms of causation, the term “institutional legacies” is used to characterise the approach.²¹

2.4 EMPIRICAL GUIDELINES FOR RESEARCH

In this final section, there is a brief review of some of the empirical literature which strongly influenced fieldwork undertaken for this thesis. The methodology derived from these studies is discussed in detail in Chapter 3.

Few case studies attempt to understand how patterns of industrial development change in response to changes in economic policy. Most of the studies cited in Section 2.1 above rely on aggregated data and lack the depth of insight to be gained from analysing the diversity of individual firm experiences. Many of the more detailed case studies tackle particular themes in firm performance. For example, a number of studies examine the development of technological capabilities under structural adjustment (for example, Biggs et. al. (1995), and Lall et. al. (1994) on Ghana). However, it is not clear that technological capabilities *alone* are fundamental to industrial development. Freeman (1987) suggests it is also necessary to look at the way in which resources are managed and organised.

²¹ Although this term has not been widely found in literature, a recent paper has highlighted its use in a different application (Hamann, 1997)

Much empirically based literature over the past decade has discussed the advent of so-called "post-Fordism" and "lean production" or "flexible specialisation".²² One of the problems with these concepts is that "they are overly flexible and insufficiently specialised" (Sayer, 1989:666). Many critics suggest these authors have not identified significant shifts in capitalist development, but rather ways of intensifying work and putting extra pressure and stress on workers to perform (see Sayer (1989), Brenner and Glick (1991), Smith (1994) and Lloyd (1994)). While the latter sets of arguments appear to have a great deal of merit, what is not in dispute is that changes in organisational and management practices are continually taking place. Many recent studies, including those by Best (1990) and Schmitz (1990), highlight international changes towards increased production flexibility, greater democratisation, continuous incremental innovation, industrial districts and the development of a cooperative and participatory atmosphere within firms. These studies provide important guidance to the direction of empirical research in this thesis.

Most firm level studies undertaken by economists conduct econometric estimates of various types of production functions.²³ This approach is rejected here on the grounds of methodological inadequacies; it is too open to assumptions determining outcomes and is incapable of addressing the issues of interest to this research. Typically, these studies are theoretically driven, and therefore assumptions about the outcomes drive the variables examined.

There are examples of firm level studies which do not approach their subjects this way. For example, Middleton, Ziderman and Adams (1993) provide a useful summary of research linking skills to productivity, although this is biased towards matters of vocational training.²⁴

On other labour matters, there has been a variety of work conducted. More orthodox analyses of labour markets under adjustment are contained in Horton, Kanbur and Mazumdar (1994). An approach much closer to that followed here is Standing, Sender and Weeks (1996). More relevant studies in this field are referred to in the following chapters.

²² In addition to those mentioned above, see Piore and Sabel (1984) and Womack, Jones and Roos (1990) for some of the key works.

²³ See, for example, much of the work coming out of the RPED surveys.

²⁴ See also Wood (1995) and further discussion in chapters below.

Another research tradition, in particular driven by economic history and other social sciences, is the case study approach (see Reid (1987), Chapter 3). This uses primary data collected in the field to generate and validate theories and drives the research process followed in this thesis.²⁵

Given the theoretical importance of understanding institutional histories, several economic histories of industries and national industrial development prove particularly useful. Mass and Lazonick's work on the decline of the British cotton industry (1990) identified problems with changes in work and organisational practices in the context of path dependency or institutional legacies (or "rigidities" in their terminology). Other studies based on detailed data collection and attempts to understand patterns of agency include Fine (1990), Clarke (1994) and Shapiro (1994).

2.5 CONCLUSION

There have been deficiencies in the analytical treatment of industrial development in countries undergoing structural adjustment. Despite a wealth of critical analysis, the IFIs stubbornly adhere to orthodox economic frameworks. While these appear increasingly anachronistic, no alternative has been able to take their place. The research in this thesis is a small contribution to the formation of solidly based empirical research, that seeks to contribute to the dislodging of the status quo and to provide an indication of alternative directions for analysis..

The literature survey has covered a number of related and relevant debates to search for appropriate ways of tackling the subject. This has drawn on debates about the importance of understanding the local political economy, as well as the lessons to be drawn from the spread of TNCs, globalization and the East Asian examples of late industrialisation.

In conducting this exercise, a theoretical framework has been selected, which makes use of concepts of institutional legacy and path dependency. This leads in the following chapters to the development of an analytical account of industrial development in Zimbabwe, which is set against a background analysis of historical and institutional change.

²⁵ See Chapter 3 for further discussion.

3 METHODOLOGY

3.1 INTRODUCTION

This chapter describes the methodology guiding the empirical work undertaken in the thesis. The chapter is divided into two sections. The first describes how and why the data was gathered, problems that were encountered and, where possible, how these were overcome. The second section lays the foundation for the data analysis used to produce the results presented in subsequent chapters.

3.2 DATA GATHERING

Data collection was split into three phases, although they were not strictly sequential. During the first, basic data were collected on firms in the metal engineering sector, and were used to identify and select firms for the detailed case study work in the second phase. In the second phase, managers and workers from the shortlisted firms were interviewed in order to collect more detailed data on a number of aspects relating to the firms' performance. The third phase saw the collection of data on non-firm institutions, which support, underpin or otherwise have influence on the activities of individual firms in the sector. Some of these institutions relate to the sector specifically and others more generally to manufacturing in Zimbabwe, but therefore also have an influence on, or are influenced by the activities of the metal engineering sector.

The following sub-sections will deal with the data requirements for each phase; the design and formulation of the questionnaires; sampling issues and sources of data; and, the problems encountered in pre-testing and delivery of the questionnaires.

Most of the firm level studies cited in the literature survey include between 20 and 50 firms as case studies, although in many cases these studies cover several sub-sectors. Each of the studies tends to focus on a few fairly narrow aspects of the issues being addressed in this thesis.

An attempt was made to build a comprehensive picture of institutional characteristics influencing the longer term performance of individual firms, as well as institutional features of the broader environment. It was considered appropriate to look in great detail at a small sample of firms. The approach was similar to that of Kaplinsky (with Posthuma -1994) and the economic history accounts of Brazil (Shapiro, 1994) and South Africa (Clarke, 1994), who deal in detail with six firms or fewer. For example, in analysing the impact of the adoption of new management techniques (NMTs) in Zimbabwe, Kaplinsky assessed the strengths and limitations of the process of adaptation through a case study of data from six firms. What such studies lose in statistical significance, they make up for in the holistic richness of detail and the convincing weight of well-founded explanation. As Cohen and Levin suggest:

"Many of the most credible empirical regularities have been established not by estimating and testing elaborate optimisation models with published data, but by the painstaking collection of original data, usually in the form of responses to relatively simple questions." (1989:1098)

3.2.1 Engineering Sector Census ("the ES Census")

The ES Census was driven by two major considerations. First, given the general dearth of reliable and up to date information at a sectoral level in Zimbabwe, it was felt necessary to develop the ability to draw some broad conclusions about what was happening in the engineering sector as a whole. Secondly, it was considered necessary to have a solid justification for selecting the particular firms chosen for the detailed case studies.

In the event, the ES Census also served the purpose of introducing the researcher to the case study firms. It was possible to establish research credibility by sending the firms a summary of research results from the first phase. This facilitated access to the case study firms for the more detailed and time-consuming involvement which was required of those firms. Only two firms objected to participating in the case study phase.

In selecting firms for the Ghana case study, Lall et. al. (1994) attempted to mix size classes, ownership forms (although considerable evidence suggests that these are not relevant to the technological issues¹) and market performance categories (either import-substituting or

¹ See Enos (1991: 113) and Lall et. al. (1994)

exporting). In their effort to choose the more technologically interesting, they were drawn to the medium and larger sized firms (1994: 47).

With a strong interest in obtaining a good understanding of the development of industry in Zimbabwe, and an interest in the firms driving that development, a similar approach was followed in this research. Smaller firms, excluding micro-enterprises (of five employees or less), were also included in the initial selection exercise, as it was thought that some of these firms might exhibit considerable dynamism.

An initial postal survey (with telephone, fax and visit follow-up) was mailed to all the firms which were identified as part of the engineering manufacturing sector in Zimbabwe's main industrial centres of Bulawayo, Harare and the Midlands towns of Gweru and Kwekwe.²

3.2.1.1 Firm Identification

There was no immediately available source of information to identify firms operating in the engineering sector. Due to their legal confidentiality obligations³, the Central Statistical Office (CSO), which conducts an annual Census of Industrial Production (CIP), was unable to divulge information about the firms beyond the number of firms in each industrial (ISIC) category.

It was, therefore, necessary to undertake an extended search across a number of organisations involved in the sector, which afforded the researcher the chance to arrange an initial introduction to those organisations. The organisations included:

- the industry representative and lobbying association, the Confederation of Zimbabwean Industry (CZI)
- the commercial representative and lobbying organisation, the Zimbabwe National Chamber of Commerce (ZNCC)

² The NEC lists (see below) and anecdotal evidence suggested that over 90% of the firms in the sector were in these locations.

³ The RPED survey used the CSO database in a very limited way. The CSO gave the researchers code numbers for the firms and employment figures, which were then random sampled in a size stratified manner and only the names of the selected firms were revealed (Gunning (ed.), 1994:3). A similar method could not have been applied in this case.

- the government's parastatal trade promotion institution, ZimTrade
- the Engineering Employers Association of Zimbabwe (EEAZ)
- the National Employment Council for the Engineering and Iron and Steel Industries (NEC).

Each organisation provided listings of members, or directories. A number of financial institutions were also visited, but were prohibited from assisting because of confidentiality requirements. The Company Registrar was visited, but the records are manually maintained, with no sectoral categorisation. This was of no practical use.

The most comprehensive source of company names was the NEC. All registered firms in the sector are legally obliged to register with the NEC, which is responsible for mediating between workers and employers on matters relating to remuneration and other conditions of service, although this does not include human resource development. The NEC maintained records on the size of the firms by employment and whether the firm was manufacturing which made it possible to eliminate many micro firms.⁴ Due to capacity limitations, the NEC is not always able to ensure that new firms register with them immediately. Firms which have not registered with the NEC within a reasonable period have been prosecuted in the past.

Finally, those few firms which obviously appeared to be non-metal based, for example some electrical engineering manufacturers were excluded from the ES Census.

In total, some 650 company names and other basic contact details were assembled, covering metal engineering manufacturing enterprises with more than five employees in and around Harare,⁵ Bulawayo and the Midlands towns (Gweru and Kwekwe).

It was not possible to ensure that every firm in the sector was captured. Given that it was not intended to undertake a representative random sample, the exclusion of a few firms should not prejudice the validity of the research.

⁴ In many cases, however, it was not possible to tell from the NEC information whether firms were manufacturing or not and in some cases their size was not recorded either

⁵ This included the nearby Chitungwiza and Norton.

3.2.1.2 The ES Census Questionnaire

The Census questionnaire asked a narrow range of questions to obtain a general picture of the companies in the population. Questions asked included: firm age; ownership; type of operation; levels of output and employment at present and in the recent past; products; recent efforts to change and improve products; percentage of output exported; degree of internal organisational segmentation; introduction and use of modern production technologies; basic skill characteristics of workforce; age of, and recent investment in, capital equipment; changes in management techniques; unionisation of workforce; existence of plant level workers' committees. A copy of the questionnaire is attached as Appendix 3.1.

The aim of collecting the data was to provide a solid basis for the classification of the sector according to different typologies of firms. The typology could then be used as the basis for selecting a small number of firms for case studies. The data also facilitated a preliminary assessment of association between measures of firm performance or dynamism (namely growth in output and employment), and variations in skills, technology, management techniques and the treatment of workers.

It was decided to include one open-ended question about existing problems and constraints. This was added, both to give the respondents an opportunity to vent their frustrations directly, as well as to provide an indicator, admittedly very crude, of the more important contemporary problems and constraints, as perceived by the owners and managers of firms.

Various published questionnaires and data lists were used to design the draft Census questionnaire, as well as the questionnaires used in the case studies (see below). These included:

- Wood's questionnaire, which was based on Daly et al. (1985) and was used in an analysis of skills and labour productivity in the South African engineering sector (Wood, 1995:146-9)
- the World Bank's RPED questionnaires for Zimbabwe (Three annual waves: 1993-1995)
- the RPED questionnaire for the technology case study on Zimbabwe (Nov. 1993)

- the Zimbabwe Government's Census of Production Questionnaire (1993 version)
- the draft ILO Enterprise Flexibility Study (South Africa) Questionnaire⁶
- Muzulu and Kanyenze's (1993) questionnaires used to examine the impact of Zimbabwe's real exchange rate depreciation and macro-adjustment during the 1980s on manufacturing performance and workers respectively
- the employment experience section of Sender's (1993) questionnaire covering women farm workers in South Africa
- Barr's (1994) questionnaire about entrepreneurial networks in Ghana.

The RPED questionnaire was of particular relevance, as it allowed the possibility of comparing the results of this research with the RPED's panels of performance and other firm data for the sector. The RPED survey for Zimbabwe collected data on just over 200 manufacturing firms in the metal products, clothing and textiles (including leather and footwear), woodworking and furniture, and food processing sectors. Of these around 35 were in the metal products sector (Gunning and Mumbengewi (eds.), 1995:2-3).

Due to the undertakings of confidentiality given by the RPED researchers, there was no possibility of conscious overlap with the case study firms chosen as a result of the selection exercise above and those covered by the RPED.

A number of other questionnaires were examined and discarded. These included the World Bank's model approach (Stone, 1992) for its private sector assessment exercise. This was preoccupied with opinion-based questioning about 'the impact' of relative price changes and regulations on enterprise activity. The responses to such a questionnaire might be biased, for example, if respondents believed that their answers might lead to the changing of unpopular policies.

3.2.1.3 Pre-testing and Dissemination of the Questionnaire

Since electrical engineering firms were not included in the Census, three of these were used to pre-test the questionnaire. The sector is close enough to the target sector, so questions

⁶ See Standing et. al. (1996) for report

which were comprehensible to such firms, were expected also to be understood by mechanical engineering firms. Firms of various sizes were approached, although all were privately owned and none were very large.

As a result of the pre-testing, a number of questions were reformulated. It was decided to add some questions in tabular form. Manufacturing sales had to be split from non-manufacturing sales, as some firms were responding to the changed economic environment by shifting their focus from manufacturing to agency or distribution activities.

Regarding capital equipment, two items of interest emerged: the range of ages of equipment in use; and also whether the firms had made new investments since the start of the structural adjustment programme (ESAP) in 1990/91.

There was confusion among the pre-test respondents as to the definition of the NEC. In one case it was viewed as the employers' association and in another as the union. It was decided to add a question about the name of the union/association to clarify this matter.

It was also decided to add a definition of manufacturing to the questionnaire. The sector embraces a wide field of activities, some of which, for example fabrication and refurbishment, may not be regarded as manufacturing. The distinction was briefly drawn between those activities which distinctly add value in production, including refurbishment, and those, like repair and maintenance, which do not (although they may maintain it).

The finalised questionnaire was sent out with a covering letter emphasising the potential benefits to the respondent of improved information becoming available on the sector (Reid, 1987:7-8). Supporting letters were attached from the Department of Economics at the University of Zimbabwe, as well as from the School of Oriental and African Studies, University of London (SOAS), attesting to the academic standing of the researcher. For CZI members, a letter of support from that organisation was also attached.

Efforts were made to identify those firms considered more dynamic and successful in the current economic environment. Individuals approached were from various sectoral organisations and the firms themselves. As a result, a few managing directors were

approached, especially those recommended by those approached initially, as being among the more competent. Highlighted firms were targeted with greater vigour, in order to try to ensure that data on them would be captured.

This attempt to identify the most dynamic firms was not a great success. Only 16 firms were thus identified by more than one source. The reasons are revealing. The sector is very fragmented across the different sub-sectors, with the divisions appearing to follow the sectors served by the various metal sub-sectors, principally mining, agriculture, transport and construction. While there was some awareness of other firms within sub-sectors, little seemed to be known of firms which were not. The evident weakness of the representative associations backs up this view (see Chapter 7). Finally, there also seems to be considerable suspicion and distrust of outsiders, including competitors, government, the representative organisations, as well as researchers, among the firms in Zimbabwe. Owners and managers of the private companies especially seem determined to divulge as little information on their companies to others as possible.⁷ Nonetheless, a number of firms were identified as among the more dynamic ones.

Follow-up efforts were made directly with many of the larger firms and others recommended as being more dynamic. A follow-up letter was mailed to 72 of the larger firms about three weeks after the initial mail shot. Phoning and faxing proved difficult due to the inadequacies of the Zimbabwean telecommunications network. Visiting proved to be as productive in terms of time spent per company. In total, 115 companies were visited, including a number of those which had also been sent the second mail shot.

The visits also provided an opportunity to gain some further anecdotal and visual evidence of what was happening in the firms and to discuss the firms' problems and constraints in more detail. The visits did not, however, lead to a significantly higher response rate. Of the firms visited, only 19 firms responded.

⁷ Further discussion of the reasons for this behaviour and its implications are presented in Chapters 6 and 7.

3.2.1.4 The Responses

In total 145 completed responses to the ES Census questionnaire were received. Three firms responded twice and two responses were for groups of companies, which included responses for operating firms which were members of the groups. This left 140 usable responses. A further 43 responses indicated firms which were non-manufacturing or had closed down. Two firms indicated they were not in a position to respond due to confidentiality. Of the 16 firms which had been identified as more dynamic, ten responded, six did not, while of the supposedly struggling firms, all six responded.

The firms which responded were predominantly the larger employers, as can be seen in Table 3.1.

Table 3.1 - Frequency by Size of Original Census Sample and Responses

Size Class (no. of workers)	< 20	20-99	100-499	≥ 500
Original Sample ¹	23.7%	52.0%	19.5%	4.9%
Responses	18.7%	49.6%	26.6%	5.0%

¹ size data was only available on 66% of the original sample firms; it is possible that there were many more at the lower size end, who had not registered their size with the NEC.

It is likely that repair and maintenance firms are concentrated at the smaller scale end of the sector. In addition, it is possible that fewer of those firms to which the forms did not apply (because they were not manufacturing) would have bothered to indicate this to be the case, so, the percentage of non-response from manufacturing firms is likely to be lower than from non-manufacturing ones.

A quick comparison with the number of firms in recent Census of Industrial Production (CIPs) reveals that in the engineering sectors (metals and metal products and transport equipment) for 1991 and 1993, 368 and 332 firms were recorded respectively.⁸ Thus, over 40 percent of the firms 'officially' in the sector were captured in the ES Census. It is likely, however, that the CSO Census does not cover all manufacturing enterprises, especially the newer ones. For example, the CIPs do not include firms with less than 50 percent of the

⁸ The CSO puts a firm into a particular ISIC category if more than 50% of its output falls into that category. There is no clear guideline for treatment of firms which have less than 50% of their output in any one category, but according to the CSO this is virtually unknown.

value of their sales arising from manufacturing operations. 13 respondents (9.4 percent) fell into this category. Among the ten case study firms (see below), three provided incomplete or no records to the CSO (and only one of these was included in the CIP). Overall, therefore, it is considered that possibly a little over a third of the firms actually manufacturing responded to the ES Census questionnaire, with these firms employing over a third of the sectors' employees. This amounts to a relatively satisfactory result for a postal survey, since typical response rates are in the range of 10-30 percent.⁹

Out of the firms which provided good responses, 8 firms indicated that they were unable to provide sales figures due to confidentiality restrictions, and 19 others did not provide sales data for 1991 (including 13 firms which commenced operations within the past four years). Efforts to follow up, stressing the confidential nature of the research and the research ethics involved, with the 8 were to no avail. During the follow-up visits, many companies made the same observation as a partial explanation of their failure to respond to the questionnaire, but were apparently persuaded by the researcher that they had little to fear, due to the way the data would be used. For the most part this acceptance did not translate into subsequent responses. This behaviour is an important indicator of the nature of many firms in Zimbabwe, which display high levels of mistrust towards any outside interest (see Chapters 6 and 7).

A comparison of the responses on union membership with records from NEWU revealed a significant over-reporting of the number of unionised employees. This was possibly as much a result of the confusion between the NEC and NEWU in the minds of managers, as of perceptions of higher than actual membership. It may also be accounted for by the fact that workers, who are no longer paying dues, still consider themselves to be and behave as union members (see details in Chapter 6).

⁹ See Wood (1995:99). It was also relatively positive given the volume of research conducted in Zimbabwe. Many respondents, and others who chose not to respond, complained of receiving a large number of questionnaires, especially from local students in various disciplines, most of which they ignore. Many are too voluminous or demanding in terms of the information required. It was also a positive response rate, given the apparent insularity of many Zimbabwean business people.

3.2.1.5 Processing the Census Data

In order to select the case study firms, a combination of factor analysis and cluster analysis was used. As expected, some of the pre-selected variables segmented the sector fairly clearly, while others did not. Factor analysis was used in order to select the variables which were best able to explain the greater proportion of the variation in the data. Cluster analysis techniques were then applied to deal with the various types of variables collected in the ES Census.

The techniques used in this analysis are briefly outlined in Section 3.2.1.1 below. The result was the segmentation of the data into seven discrete and fairly well-defined clusters of firms possessing overlapping but differentiated characteristics. The ES Census data are also used to characterise the engineering sector as a whole (see Chapter 6).

3.2.1.6 Selection of the Case Study Firms

A key objective of this research is both to understand what drives the performance of the sector as a whole, as well as to explain why some firms are more dynamic than others. Thus, it was decided to include among the case studies, the best performing and most dynamic firms, as well as those whose performance was less satisfactory. It is as important to understand why progress is not happening, as why it is.

Initially, it was considered desirable to include a failed firm among the case studies. In the event, despite the fairly frequent failure of engineering firms during the fieldwork period, it was not possible to do this at a level of sufficient detail.

The clusters were based on structural rather than performance features of the firms. Each cluster contained firms which had sales and employment growth that varied considerably (the main indicators of dynamism on which data were collected). One cluster (Cluster One) contained small firms, under 10 years old, with relatively high skills and mostly still in their initial rapid growth spurt. The other clusters all had broadly similar average growth rates. The firms varied more in terms of skills, technology, changes in product mix and organisation of production and degree of unionisation. In these categories, one cluster

(Cluster Three) contained very stagnant, smaller to medium sized companies, with poorly developed skills and technology, which were doing little to change their products or product mix.

Various alternatives were considered in selecting the case study firms. Many of the firms reported anecdotally during the Census (see above), as being among the more successful in the present environment, fell into a single cluster (Cluster Five). However, three of the firms reported as being less than dynamic also appear in that cluster. It is more likely that Cluster Five contains many of the larger, longer established and consequently better known firms, rather than *all* of the most dynamic in the sector.

One alternative considered was to random sample the firms from within each cluster. With considerable behavioural diversity within each cluster, the firm thus selected might neither be very dynamic nor 'representative' of the cluster.

Another possibility was to select firms with similar products. Daly et. al. (1985), Mason and Wagner (1988) and Wood (1995) emphasise seeking out specific sub-sectors where there is the possibility of direct comparison between firms. Daly et. al. and Wood also focused their research on the manufacture of technologically less complex products, as efficiency issues could then be more visible to the non-engineer researcher. This approach was not possible, however. Given a fairly concentrated industrial structure, there were insufficient responses to the Census from firms in similar product categories that showed well differentiated performance characteristics. As a result, it was decided to limit the case study investigation to firms which were working principally with metal materials, so that at least there would be some commonality in the types of processes and skills likely to be used.

Another option would have been to select only firms involved in supplying the same economic sectors, as the reduced variety of sectoral linkages would limit another set of possible reasons for firm-level variation. This would have been possible across the clusters, as the clusters did not group together firms serving the same sectors.

However, given the desire to try and capture what was happening throughout the sector as a whole, it was decided to select dynamic firms which best captured the key features of each

cluster, rather than attempting to ensure that all the firms served the same sector. So, for example, in the young and dynamic cluster, the selected firm and its alternate were those with very high growth rates for both manufacturing sales and employment, with high skill levels. It was decided to select the least 'dynamic' firm from the 'stagnant' Cluster Three, for a point of contrasting reference. It was further decided to exclude very small firms (less than 20 employees), and those less than five years old, which had not been operating prior to the introduction of the changes in the economic policy framework.

The firms in each cluster did not easily capture all that cluster's defining characteristics (large, high skill, etc.) simultaneously, so an unweighted average ranking system of the top three or four defining variables for each the cluster was used. In each case, a measure of growth was included as a selection characteristic. The firms with the highest average ranking on the key criteria were then examined for their suitability.

One firm was selected from each cluster, with an alternate. Both firms were to be approached, in case the preferred firm did not agree to continue to participate in the research.

3.2.2 Detailed Firm Case Studies

A letter of invitation to participate was sent to the selected firms and their alternates. The firms were then telephoned a week or two later to arrange the first appointment with the chief executive. Two of the firms, that would have been eligible for selection had they not been in the electrical, or other unsuitable sub-sectors, were chosen to pre-test the instances study questionnaires.

In a number of instances the firms initially identified in the cluster analysis could not be used. Two firms refused to participate, claiming that it would invade their privacy. One of these companies was majority owned by the Zimbabwe government. Another firm had only its administrative office in Harare, while its manufacturing operations were in a smaller centre, outside the selected sites for the research. One firm had closed its operations since the ES Census form was completed and yet another claimed to have ceased its manufacturing operations during the same period. In two clusters, one of which was the stagnant cluster, further letters had to be issued in order to obtain agreement from the firms concerned.

In some clusters with larger firms, it was decided to examine two firms, making a total of 10 case study firms. One of the originally selected firms had dropped its metal product operations some years before ESAP and was now only producing plastic products. This firm was retained for comparison purposes. In the other two clusters where two firms were included, this was, in part, to establish whether, given the crude nature of the clustering, there was as much variation between firms within each cluster, as between them.

The included firms delivered their output to the construction sector, the mining sector, or other manufacturing or service industries, either as intermediate or final products. None of the participating firms was specifically serving the agricultural sector or the motor industry, and only two firms were producing final consumption products. This probably reflected the relatively poor recent performance of the agricultural sector and the motor industry in Zimbabwe, as well as the depressed state of household consumption amongst most segments of the population (see Chapter 5).

While an effort was made to include a range of sizes of firms, most of the participating firms were medium sized (in the 20-99 employee grouping), which reflects the sectoral distribution (see Chapter 6). Only two firms had over 250 employees (both from the larger and older firm cluster). Other characteristics, such as ownership and location were mixed.

The racial origins of owners were not investigated in the ES Census, although calls for 'indigenisation' and the interests behind those calls have important political influence in Zimbabwe (see subsequent chapters). It appears few indigenous (i.e. black-owned) private companies responded to the ES Census. Most of these were very small.¹⁰ None of them emerged as possible case studies from the cluster analysis. Given the above criteria for selecting firms, the inclusion of one of these firms would have been artificial.

The ten selected firms with their main products and cluster numbers in brackets are:

- A. YOUNGO - steel fittings - (1)
- B. SOLIDCO - metal products for health services - (2)

¹⁰ In a recent survey, only 7 out of a sample of 54 indigenous firms had more than 100 employees (Bradburd and Levy, 1995:3)

- C. STATICO - small metal signs (3)
- D. SANDCO - specific line of components for mines and manufacturers (4)
- E. RENEWCO - foundry (4)
- F. QUALCO - small components for the mining industry (5)
- G. DELAYCO - heavy engineering and structural steel (5)
- H. PLASTICO - plastic packaging (6)
- J. PUSHCO - metal components for buildings (6)
- K. MONOPCO - cables (7).

The rest of this section examines the rationale for the case study data requirements and the questions asked.

The data were divided into three groups. General firm performance data, as well as data on investment, products, strategy and organisational information were collected from the chief executive or owner. Productivity, production process and technical training data were sought from the production manager. Finally, 150 workers were interviewed regarding their personal circumstances, including their education, training, wages, and career history. Workers were also asked a number of motivational questions.

At a broad level, the survey aimed at understanding the circumstances under which decisions were made to undertake major new investments; to change production processes, product mixes, skills and technology in use; and, to revise organisational strategies. Collecting data on productivity, profitability and capacity utilisation, facilitates examination of the impact of strategic changes on such performance criteria. In addition, data were collected on a number of institutional factors of interest for the research, as specified below.

It was also intended to find out whether and why firms did *not* undertake strategic changes in response to changes in their business environment. This may include, for example, failing to take steps to improve worker productivity when faced with increasing labour costs, or not improving the product quality or updating the technology in use in response to changes by competitors. The assessment of such situations often has to be inductive, as the firms will not necessarily have made an assessment of potential changes and consciously taken a decision not to proceed. Furthermore, there is inherently a problem with the opinion based

questions which have to be asked in tackling this matter directly. It is problematic to ask such a question in a way that will not prejudice or bias the response.

Overall, there was a strong emphasis on examining current performance and practices, against the background of changes the firms had implemented or experienced since the introduction of ESAP.

The data collected in the case study survey are analysed in Chapter 6. Detailed analysis of differences in the various categories of data collected is carried out across the firms and compared with the performance data.

3.2.2.1 General Data

In this section of the questionnaire, the data collected from the chief executive are discussed. The data include information on the firm at the strategic level, performance data and data on the structure of the firms, as well as their corporate policies on investment, planning and skills development (see copy of questionnaire in Appendix 3.2).

This initial draft of the questionnaire was too long to be fully dealt with in a single interview. It was decided during the pre-tests that the performance data would be best obtained by leaving a copy of a written questionnaire with the respondent.¹¹ This could then be completed by the responsible person(s) in the firm. In the event, this was the least successful part of the case studies. Without the direct involvement of the researcher, the questionnaires were frequently mislaid, or their completion substantially delayed. With hindsight it might have been better to interview the responsible parties personally on a separate occasion. The concern about that option was that the information would not be readily accessible at the times the researcher visited and this would lead to inadequate completion of the forms.

This problem was mitigated to some extent in firms which were regularly submitting their CIP returns to the CSO. With the firms' written consent, the researcher was able to examine

¹¹ Pre-tests were held with chief executives and production managers in two companies, as well as four workers in each company.

their annual returns. In a number of instances, this was also problematic, as the figures submitted to the CSO were not always the same as those given to the researcher. One firm readily acknowledged that the figures sent to the CSO were artificially concocted to disguise the true situation at the company, given the doubts about the CSO's assurances of confidentiality. Furthermore, in many instances the CSO failed to elicit returns from companies and used proxy growth rates based on historical figures, perhaps over many successive years. Chapter 7 returns to the subject of the quality of data available on the sector and industry.

During the pre-tests it was decided not to tape the interviews. This was as a result of the prevailing environment of suspicion and mistrust. With a tape recorder on, it was feared that there would be hesitation on the part of the respondent, which might inhibit the frankness and depth of the responses. Some anecdotal off-the-cuff comments may have been lost as a result.

In most instances, interviews lasted between one and a half and two hours, depending on the extent of digression. The respondents were willing and ready to answer most questions asked. Overall, it is considered that the quality of the responses was good. There were problems with obtaining detailed and accurate responses to certain questions, where respondents were clearly guessing.¹²

Once the interviews with the production managers and workers were completed, brief profiles were developed of the companies' structure and where there might be critical points of interest, problem areas, or information deficits. In four of the most interesting and complex cases, a semi-structured interview was held with the chief executive to follow-up on particular issues.

PERFORMANCE DATA

This section was used to assess the relative dynamism and efficiency of the different firms

¹² The difficulty of getting precise answers to questions leads one to suspect the quality and validity of some of the quantitative data collected during the RPED surveys. In those, performance data was expected immediately and the questionnaires were considerably longer than for this research (from verbal discussions with RPED enumerators).

surveyed on the basis of well-established performance criteria. This provided a basis for relating other information to be collected to firm performance, as well as to facilitate comparison between the firms.

Of particular interest were profitability, value added, productivity and capacity utilisation. It was not expected, however, that all firms would readily provide access to information on profits, or productivity, so this was not directly requested. It was intended to collect sufficient data to make possible basic estimates of recent changes to these indicators. While this was done, there are serious concerns about the information on non-production costs and overheads. Thus, while net output figures (gross output less direct input costs) are probably fairly reliable, those requiring further deductions are not taken seriously in Chapter 6. Estimates of current capacity utilisation were less of a problem, but also seem highly suspect, in most cases being stated arbitrarily without the benefit of any statistics. There was no evidence that firms maintained historical records on capacity utilisation.

Crude estimates of profitability were constructed from the data provided on sales revenues, purchase costs and overheads. Their reliability is also highly questionable. Labour productivity estimates were calculated from information given about employment and output volumes, in part obtained from the production manager. The analysis of these figures is reported in Chapter 6.

With hindsight, the research would have benefited from more time to have reviewed the financial data in detail with firms' representatives.

INVESTMENT

In this section information was sought on the ownership structure of the company. Of key interest were data on any recent new or replacement investment.

The main problem was the lack of continuity in the information supplied by the firms. There were also differences between data supplied by the firms and those obtained from the CSO records.

PRODUCT

The interest in products centres on analysing the timing of shifts in the firm's product mix. While it was intended to focus the analysis on how such changes in product mix were related to changes in the macro-economy, as well as to other changes within the firm, there was very little product innovation to assess (see Chapter 6).

Questions were also asked about changes in the degree of concentration in the local product markets. The product data also provided information on changes in the nature of competition in the firms' product markets. One objective of this section was to obtain information concerning non-price competition.

EMPLOYMENT

Information was sought on the changing structure of employment, between permanent and non-permanent staff, between different skill levels and between various functions within the firm. Given the high frequency of retrenchment (redundancy) since ESAP, information was sought on the retrenchment experience of the company.

RECRUITMENT, TRAINING AND SKILLS DEVELOPMENT

In this section of the survey, the objective was to obtain information on the skills policies of the firm. This included obtaining data on changes in firms' recruitment and training practices and policies. These changes link to others, including the introduction of new technologies and management techniques (see Section 3.1.2.2).

CORPORATE STRATEGY

The main questions in this section covered changes in corporate strategy introduced since ESAP. The changes are examined to assess their impact on other areas of firm behaviour. Questions about the planning processes were used to assess the sophistication of the firms' management. This section's questions also stemmed from an interest in the degree to which the management style of the company could be described as consultative and participatory.

This relates to issues of loyalty and trust within the firm.

ORGANISATION OF PRODUCTION

Closely related to the above are questions about the structure of the organisation and changes in the management techniques. The main questions concerned the introduction of changes in the organisation of production.

The managing directors were also asked about their linkages with other firms and organisations to try to establish how well integrated they were into the surrounding business environment. In the event, the data collected were difficult to use, given doubts about their reliability. In keeping with the isolated character of many firms, relatively little was revealed beyond the normal arms-length commercial arrangements.

3.2.2.2 Production Process Data

In this questionnaire (see Appendix 3.3), more detailed information on productivity, production process and technical aspects was sought from the production manager or equivalent. The interviews were held after the general questionnaire interview. The interviews took between one and two hours. In most cases the respondents were very willing to assist. The questionnaires were more oriented to production process than the general interviews, so questions were less awkward or less likely to arouse suspicion.

PRODUCTIVITY

One of the key performance indicators used in this research is labour productivity. Measuring labour productivity can be attempted in both physical and monetary terms. Given that many case study firms are 'jobbing' type firms, it proved impossible to compare volume productivity (units per worker per day). Consequently, it was decided to adopt the value definition in calculations of productivity. Broad impressions of change (improved, worsened, unchanged) were also sought from the respondents in volume terms.

Details of the firms' most recent efforts to improve productivity were also requested, with specific emphasis on the introduction of team working, and the perception of success or otherwise of such efforts. These data are juxtaposed with data on skills and training to assess the impact of different levels of skills, and changes in those skill levels on productivity (see Chapter 6).

PRODUCTION TRAINING

Detailed questions were asked about changes in the extent and type of training being undertaken by the firm. While there was some overlap with the general questionnaire, more detail was requested here.

This section also had check-type questions regarding the production manager's perceptions of his/her workers' educational and skill endowments. Productivity or motivational problems could arise, if the production manager is consistently over-estimating or under-estimating the extent of literacy, numeracy and education among his/her staff.

INNOVATION

Questions in this section were designed to elicit responses concerning the originators of innovation and the types of technical change recently introduced in the firm. Supporting questions about the introduction of technical change were asked, similar to those asked about changes in the organisation of production in the general questionnaire.

The cost of the changes was investigated, but in many cases the production managers could not easily answer.

There was also a motivational aspect to this set of questions, including whether workers were given rewards for making suggestions; whether the suggestions had an impact on technical change; and, whether there were consequent changes in employment, skills required and/or tasks performed.

MACHINERY

Questions were asked regarding the age and level of technology in use, as well as the experience of operating the machines, in terms of problems resulting in downtime. Information was also requested on the occupational level of the setters and operators and the training they are given.

Answers to these questions provide a linkage between technology, skills and training, through to productivity. With relatively limited use of newer technologies this section did not lead to findings of major importance. There were also problems in recognising which equipment fell within the definition of machinery.

MAINTENANCE

This section expanded on the experience of stoppages through breakdown to find out how they were dealt with. Changes in maintenance practices over time were sought. Maintenance capabilities are an important element of the firms' 'technological capabilities' (see Section 6.5 below).

MANUFACTURING PROCESS

It was hoped to be able to make detailed comparisons of set-up times and physical outputs per worker and machine between firms producing similar products. In the event, due to the selection of firms in the case studies, this did not prove possible. Useful data were collected on defect rates and throughput times (although again these data were limited by the jobbing nature of many firms).

TROUBLE-SHOOTING, QUALITY AND SUPPORT SERVICES

In order to follow-up on the technical capabilities of the firm, questions were asked about technical problems which had arisen over the previous few years, how they were solved and what type of external assistance was involved, if any. This also has an input into the organisational analysis, assessing the firms' interaction with external service organisations.

This latter point was further investigated through the firms' use of outside agencies to assist in adopting quality standards, as well as in other areas such as quality control, repair and maintenance, technical assistance, technical training and instrument calibration.

The issue of quality was highlighted, as many managers and others involved in the export promotion effort in Zimbabwe regard international product quality certification (ISO 9000, in particular) as being a pre-requisite to exporting internationally. Choosing, or not, to obtain these standards can be a complementary decision to other changes in strategy covered in the general questionnaire. This provides additional information about the way the firm sees its market potential.

3.2.2.3 Employee Survey

This section outlines the structure of and rationale for the questionnaire (see Appendix 3.4) addressed directly to a total of 150 workers across the ten firms.¹³ The percentage of workforce interviewed, ranging from 5% to 35%, was higher in the smaller firms. This was largely to ensure that a good sample of workers was surveyed in the smaller firms. Time and resource constraints meant that it was not possible to survey more workers in the larger firms. It was only possible to interview workers during their lunch breaks, except in two companies where three shifts were operating and workers could be interviewed as soon as their shift ended.

A representative sample of production workers was interviewed regarding their work histories, training and educational backgrounds, remuneration, unionisation and other characteristics (see below), which might have an impact on their productive capabilities and work effort.

The workers interviewed included unskilled, semi-skilled, artisans, and supervisors/foremen. As most of the sample firms employed very few technicians, these were not questioned. Limited information on the technical and educational background of engineers and production managers was obtained from senior management in some firms.

¹³ Ranging from 8 to 23 workers in any particular firm, roughly according to the size of the firm.

A stratified random sample of workers was selected. Stratifications were made according to occupational level, and individual and divisional function. The ability to do this effectively varied according to the quality of employee record-keeping by the firms. Only the larger and more organised firms tended to have lists of employees divided according to grade, function and division. As almost all workers in the sector were male, an additional stratification on grounds of gender was deemed unnecessary. Only one woman was interviewed, and no others were seen in production positions during visits to the sample firms.¹⁴ In almost every firm, a member of the workers' committee was among those interviewed.

With an overall sample of 150 workers, there is a reasonable likelihood that statistical significance is obtainable on some indicators. The representativeness for the sector as a whole is compromised by the limited number of firms. Given that the selection process attempted to ensure that the firms were broadly representative of the sector as a whole, however, there should still be some more general validity. Greater problems emerge at the firm level. While correlations and other statistical comparisons can be made, the attainment of statistical significance at that level is rare.

The researcher was aware that there might have been problems in getting honest and useable responses from production workers, if it was believed that the researcher was too closely allied to management. Suspicions of a hidden agenda in asking the questions might have distorted the sincerity of the responses. For this reason, at each interview the researcher explained with considerable care the purpose of the research and its confidential nature; showed a letter from the National Engineering Workers Union (NEWU) supporting the research; and was accompanied by Zimbabwean enumerators, who were simultaneously interviewing several workers in the vernacular. Interviews were conducted in privacy, usually in the workers' canteen or training room. No management personnel were present. A very low profile was kept when liaising with management during the earlier interviews, excluding factory tours.

¹⁴ This pattern varies considerably by sector in Zimbabwe. In the garment industry there are large numbers of women workers, although they tend to be in the lower skill occupations within that sector (Jirira, 1996).

While consideration was given to conducting interviews off the factory premises, at workers' homes, or possibly in small groups at local social or community centres, time and practical constraints prohibited this.

The worker interviews took from 25 to 40 minutes each. In general, the workers answered the questionnaires willingly and were pleased to be asked about themselves. It appeared that this does not take place very often. For a limited number of questions, as outlined in the following subsections, there are doubts about the reliability of responses.

One of the main reasons for the detailed questions for individual workers was to improve the understanding of how skills differ across the full range of occupational levels within and between the firms. In the analysis, such differences are likely to form an important explanation of productivity levels and their differentials across firms.

CURRENT WORK, WORK HISTORY AND REMUNERATION

Questions were asked about total years with the company, years and frequency of unemployment and reasons for leaving the previous job. Regrettably, the years since leaving school, or workers' ages were not requested. Details of the present job title, status, whether work was shift based, whether team work had been introduced recently and how the workload (number of tasks per hour) had changed were requested. All this information helps to complement the information received from the management about firm dynamism and the changes which had taken place recently.

Workers were asked about their working hours; days on leave, off sick and for funerals. The latter two issues are important as there is an increasing incidence of HIV related illness and death affecting productivity in Zimbabwe. Wages and details of non-wage financial and non-financial allowances and benefits were also investigated. The data on working hours and wages provided input into calculations of productivity and other performance criteria.

One problem encountered here was that the grade of the person was not asked for. Estimating how close each worker's remuneration was to minimum agreed scales thus required careful judgement.

Furthermore, there were a number of company credit schemes in operation. For instance, employees could obtain discounts on the purchase of groceries at a local store, and have the amounts deducted from their wages. This was not always picked up by the questions, and not all employees in companies operating such schemes took advantage of them. This sort of benefit may account for different percentages of gross against net wages.

Respondents were also asked about non-firm sources of income. This was to assess both how dependent they were on their wages and whether they were engaged in any rural activities to supplement income, or whether their other sources of income were also derived from urban activities. This is one question where the validity of the responses is very doubtful. Despite assurances of confidentiality, there was suspicion that management might still be able to gain some information from the results about specific individuals. This was a particular problem for those workers who were doing part-time jobs using tools 'borrowed' from the firm. There was, however, a reasonably positive response to the questions, as analysed in Chapter 6.

EDUCATION AND TRAINING

Respondents were asked about their educational attainments and details about the technical subjects they had studied before coming into the firm, as well as training they had received since joining the firm and some details about training experiences. Questions were asked about new skills they had acquired recently. They were also asked if they had been denied any training which they had requested. These questions all served to complement and cross-check the training information provided by management, as well as to form the basis for inter-firm comparisons of training practices and skill complements.

Regrettably, there was some imprecision in the questions asked. For example, if the respondent had not completed an in-company apprenticeship at the present firm, it was unclear whether an apprenticeship had been completed. As a result, there may be some downward bias in the level of educational attainment across the sample.

Questions were asked about consultation with workers over plans for the company and the introduction of new technologies, as well as how workers learn about the companies plans. Questions about a number of sociological issues, such as whether they were offered chairs in managers' offices, and shared toilets, were also asked to obtain a sense of the enforcement of hierarchy within the firms (which relates to respect and trust issues focussed on in Chapter 6).

Questions were asked about trade union and worker committee membership and whether the respondent had participated in any kind of industrial action in the company.

Finally, to allow the respondents a chance to air their grievances, there were open-ended questions about good things that had happened to them during their employment with the company, as well as what they would like to see improved. This last area was another where there seemed to be a degree of holding back from some respondents, while very few respondents had positive experiences to relate.

3.2.3 Non-Firm Institutional Survey

The literature survey provides a background to the reasons for examining non-firm institutions. In this subsection, the reasons for, and experience of, collecting information on these institutions are outlined.

Questions which arise include:

- Are the institutional changes complementing the policy shifts, or are they impeding them?
- What scope is there for institutions to change further in a manner that would be more supportive and encouraging of the further development of industry in Zimbabwe?

In order to have a systematic analytical approach to these questions, a common format was developed to assess the relevant institutions.

It was originally intended to examine organisations, as well as less visible institutions, such as the legal framework, business norms and codes of practice. There were difficulties in identifying and contacting individuals to interview regarding the latter, and this examination proved to be beyond the time and physical resource capabilities of the researcher. Accordingly, although such institutions are considered to be of crucial importance, their empirical analysis features no further in this thesis.

The organisations surveyed included training organisations, both public and private (including vocational training colleges and universities); technology development organisations; employers' associations and trade unions; and, the national organisation assisting firms to promote their exports (ZimTrade).¹⁵ In a few cases, the organisations have regulatory functions, especially some of the organs of government.

Among the institutional characteristics of interest to this study, are the organisations' histories and evolution. Zysman argues that the "character and function of ... institutions are often evident only in their history... The progressive evolution of those structures defines evolving sets of constraints and incentives." (1994:245-6). For example, for many years staff within regulatory organisations were well versed in implementing a system of controls over the conduct of business. Changing their operational functions may not have immediately changed their behavioural patterns. These histories are analysed against the background of economic policy changes in Zimbabwe and other variations in economic circumstances (see Chapter 7). Of particular interest is an examination of whether the 'scaling back' of the government's role has been followed by the development of private commercially driven organisations providing similar or improved industrial support services.

The information sought concerned the dynamics of the relationships between the organisations and the sector(s) they served. This included whether they were reactive or proactive in carrying out their work and the skill and functional capabilities of the organisations. Examining linkages with users of their services, as well as with organisations providing complementary or competing services and other categories of social actors (civil servants, politicians, donors), helps in developing an outline of the organisational framework

¹⁵ The list of organisations examined can be found in Appendix 3.5.

surrounding manufacturing. The problems in making use of the linkages effectively, in terms of communication and coordination with constituents and other organisations, are also assessed (see Grindle and Hilderbrand, 1995: 454-55).

Standard structured surveys, with a mix of closed and open-ended questions were conducted in each organisation (see Appendix 3.6 for the survey instrument). There were few examples of questionnaires on which to draw as models for this part of the research.

In addition to the above topics, efforts were made to ascertain what social groups were most active and influential within each organisation. It was found difficult to obtain standardised answers to these questions, which often revealed more about the respondent than the objective situation. The analysis in Chapter 6 uses this and other information to develop an understanding of the paths of agency within the engineering sector and its organisations.

Analysis of how each organisation has changed or failed to change its strategies since the introduction of ESAP gives further insight into the dynamics of the organisations. The documentation of recent changes in strategy indicates how the organisation responded to or anticipated changes in the national economy, whether these resulted from shifts in the policy framework or other exogenous economic changes.

The rest of the standardised questionnaire focussed on assessing the capacity of the organisations to select and, then, to implement strategies. Tools were required for assessing the organisations' effectiveness. These included examination of information management, problems that the organisations experienced in carrying out their functions; staff qualifications and experience, and external evaluations of the organisation (if available).

In total 19 organisations were interviewed. The interviews took between one and a half and two and a half hours and were conducted in a cordial, if sometimes guarded manner. In general, the questionnaire interviews were immediately followed by a more open-ended, semi-structured interview covering a number of broader issues. For example, particular incidents covered in the literature were clarified, while possible explanations for past events from the different perspectives of individuals in different organisations were discussed. Given the dual purposes being served by the meetings, it was frequently necessary to

continue the interview at a separate time. It was important, therefore, to ensure that there was not too much casual contact with the most senior people in these organisations at too early a stage, as this opened the possibility for them to become irritated at having to spend so much time with the researcher.

Some organisations were easier to study than others. The smaller and more autonomous organisations generally had current information more readily available and staff who were more keenly aware of the organisation's strategies and business. In some organisations, even organisational heads were not aware of the activities of their colleagues. Government organs were among the more difficult to assess effectively, especially in terms of the patterns of agency, linkages, and the capabilities of their staff. Some recent review documents of the work of the Ministries of Industry and Commerce and Higher Education have provided some information.¹⁶ The Public Service Commission was not responsive to direct approaches seeking to follow-up on these issues.¹⁷

The smaller and more tightly controlled organisations, for example, sectoral lobbying groups, tended to have more coherent, well focussed and commonly shared strategies, compared to larger and more diffuse organisations, without well developed management objectives and hierarchies, for example government ministries.

The fieldwork also included initial examination of less visible institutions, such as the legal framework, contracting and business norms, in the field research.¹⁸ Many recent changes to these institutions have taken place, such as delays in receiving payment for commercial transactions, related to high interest rates; and, difficulties in using the legal system as a mechanism for recourse. Such changes have affected the efficiency of firms in conducting their business. However, there was insufficient time in the fieldwork to pursue this line of research adequately. It remains a field for further research in the future.

¹⁶ See Ministry of Higher Education (1994), Munetsi and Simango (1994), KPMG Peat Marwick (1995) and ILO (1995). There was a Commission of Inquiry into the Public Service in 1989 (the report of which was not obtained).

¹⁷ After several unsuccessful attempts to arrange meetings through visits and by telephone, this was not pursued.

¹⁸ Increasing attention is being given to such institutional factors in empirical work - see for example, Deakin and Michie (1997) and other articles in the same edition of the *Cambridge Journal of Economics*.

Given a general concern to ensure that respondents were open and honest, assurances of confidentiality were given. Consequently, in the following chapters names and positions of respondents are seldom quoted. A list of many of those interviewed can be found in Appendix 3.7.

3.3 ANALYTICAL CONSIDERATIONS

A great mass of data has been collected on firms, their workers and a number of non-firm organisations involved in the manufacturing industry. This section briefly previews the methods adopted to analyse the data.

3.3.1 Engineering Sector (ES) Census Analysis

The ES Census data was analysed for two purposes. The first was to gain an input into the selection of the firms for the case studies. This was conducted using a combination of cluster and factor analysis. Secondly, correlation and other basic statistical techniques were used to characterise the sector from the collected data (see Chapter 6).

The processing of the data was carried out using SPSS for Windows, version 6.0. This was carried out in a number of stages. The first stage was to enter and then clean the data, as far as possible. A number of firms were contacted to follow up on missing responses. New variables were created from the ES Census data. These included:

- growth rates for sales and employment between 1991/92 and 1994/95
- an index of labour productivity levels and growth, calculated by dividing sales for the above years by employment in 1991 and 1995 respectively
- a combined firm skills index, including the number of apprentices, shadow valued at 25% to reflect their four year training period, indicating that they are only fully skilled at the end of their apprenticeship, at which time about half leave their firms,¹⁹ and, graduate engineers weighted at twice the value of the technicians

¹⁹ The wastage rate was later confirmed at around half in the case study firms (see Chapter 6 below).

- a combined technology index, taking into account the use of more advanced machinery, the recent introduction of new technologies and the crude measure of the age of capital equipment (given a weighting significantly lower than the other components of the index).

The weightings of the last two indices can be adjusted, but are fairly robust. The data in the open-ended question contributed to the development of topic guides for interviews with the supporting organisations.

3.3.1.1 Factor and Cluster Analysis

The data from the ES Census were processed to group these data into clearly distinguishable clusters, in order to select firms for the detailed case studies.

In this research, there are variables where the value itself is important, sales, number of employees; ordinal variables, where higher values are ascribed to more valuable situations; nominal variables, where the outcome is ascribed a code, which has no inherently greater weight than another code; and, binary variables where the answer is of the "yes/no" variety. Combining these different types of variables requires careful attention to avoid mixing up the different types and giving value to nominal variables.

After comparing a large number of alternate clusterings, it became apparent that there was no clear basis on which to assess 'better' or 'worse' groupings. So, in order to identify which variables were likely to be the most important around which to perform the cluster analysis, in terms of explaining more or less of the variation in the data, factor analysis was used. Four factors, explaining 70% of the variation in the data, were generated using the following 10 variables:

- growth in employment from 1991-1995
- the percentage of unionisation of the firm's workforce
- size by manufacturing sales in 1994/95
- age of the company
- percentage of exports

- technology and skill indices (the technology index denoted by rank)
- whether the firms were improving the quality, production processes and marketing of their products (3 separate binary variables)

The first of the generated factors is dominated by firms with larger numbers of changes to the products and higher percentages of exports (or vice versa). This suggests that the most important factor distinguishing between the firms, is whether they are dynamic in changing their products and exporting. The second factor depends on younger firms with higher skills and lower unionisation; the third features firms with lower sales and higher unionisation, and the fourth draws on older firms with higher skills. The factor analysis is not interpreted any further, except to note that, as with the cluster analysis below, there is no place for performance dynamics or growth rates to distinguish between firms. The implication is that there is no clear association between firm structural factors and performance measures.

The "best" clustering, using SPSS's "K-means cluster analysis", involved seven clusters. This produced meaningful groups with reasonable degrees of similarity within them (see Section 6.1).

3.3.1.2 Sectoral Analysis

The ES Census data were also analysed using simple statistical techniques, especially correlation coefficients and cross-tabulations, to assess where there appears to be some sense of variables changing together, or against each other in a related manner. This analysis cannot assess causality on its own, but it provides a useful statistical background for the assessment of the case study firm performance (see Chapter 6).

Additionally comparisons were made using similar techniques of differences between firms grouped by size, age, ownership and whether exporting or not. Possibilities for international comparison were limited by the lack of available comparators, although this would be a useful avenue for further research.

It was found difficult to distinguish between the impact of various firm characteristics on changes in performance. If changes in skills, technology and the organisation of production

are occurring simultaneously with an increase in productivity, it is difficult to assess the relative strengths of each of these influences on performance without employing some kind of regression analysis.

This methodology has problems, however, which limit its utility. An econometric approach would establish statistical relationships between changes in 'independent' explanatory variables, and the 'dependent' performance criteria. Such an analysis would need to be founded, however, on a theoretical framework involving certain restrictive assumptions, for example regarding the direct comparability across firms of the technological improvements or the quality of the training. Given the nature of the data, the assumption of independence of many of the candidate explanatory variables is inherently problematic. A dynamic firm is likely to conduct more training, introduce more technological improvements and improve its management techniques in a complementary fashion. Robust regression analysis would also have required a higher volume of data collection than was possible in this research. Such an approach is not applied in this study's analysis.

Another problem is that the data available from the ES Census are very limited in range, scope and detail. They cover a limited period; data on output are absent for some firms, and productivity data are crude. Consequently, trying to compare the changes elicited in the ES Census with changes in the wider economy is problematic.

While there are relatively few tests that could legitimately be conducted given the limitations of the data, output and employment growth figures from 1991-95 could be used to ascertain responses to the changes in relative prices during that period. The data problems extend to the macro price data (see Chapter 5). With all price indices subject to revision, changes in relative prices are still very unclear at the time of writing.

The difficulties in analysing the ES Census data emphasise the importance of the case study approach taken in the research and from which the most useful and convincing analysis was derived.

3.3.2 Case Studies

The case study analysis examines the impact of non-price, non-cost based, institutional variables on the behaviour and performance of firms in the target sector. The firms' characteristics are analysed to understand differences between better and worse performing firms. A simple typology of firms assists in understanding the diversity of firm experiences in Zimbabwe.

To save time, it was decided not to obtain financial performance data on a continuous year on year basis. This focus on selected years had problems, however, in that sometimes the CSO data was missing for the particular year selected. Year on year, there were large variances in the figures presented to the CSO for individual firms. Consequently, the estimates of changes over time vary considerably depending on the starting year. The best solution might be to examine changes in moving averages, but with discontinuous data this is also not possible. Nonetheless, the data do show discernible differences from one year to the next. The precise figures should, however, be used with considerable caution.

Changes in firm behaviour are examined to see where these conform to 'orthodox' expectations of response to changes in the economic environment (see Chapter 6). The latter comprised both ESAP's changes in the economic policy framework and the macro-economic changes that followed ESAP. The macro changes included a reduction in domestic demand, partly as a result of the drought; reductions in real wages; and, high real interest rates. This type of before and after analysis is complex (as noted in Chapter 2). As with the ES Census analysis, one hazard is the difficulty of distinguishing directly between various possible explanations of change in behaviour and performance. By tracing the institutional histories and legacies of individual firms, explanations of change may be more convincing.

There were problems in obtaining reliable historical data on the firms pre-ESAP, apart from limited financial data from the CSO. The bulk of the analytical work centres, therefore, on variation in recent performance across different firms, rather than identifying the longer-term influences on individual company performance. This is supplemented by secondary data, the general historical survey of manufacturing in Chapter 4, and other literature.

3.3.3 Institutional Analysis

This analysis, in Chapter 7, compares and contrasts many behavioural aspects of the supporting firms. It includes examining skills and experience of staff, handling of information, linkages with other organisations, and changes in strategy since the introduction of the changes in economic policies after 1990.

Given limited data, of uneven quality, there is little possibility of any serious comparative statistical analysis of these organisations. Without cost information and some objective assessment indicator of performance, much further analysis becomes problematic. It is impossible at this stage to make any direct assessment of varying performance across organisations, or over time. The emphasis therefore is on qualitative assessments of the changing roles played by the various organisations.

Likewise, it is impossible to establish any direct comparison of the efficacy of the organisational framework in Zimbabwe promoting industrial development, with that of other countries.

The organisations are examined both as independent entities, and in their social settings. This assists in understanding which interests are being served, the balance of power between them, and the conflicts which underlie the actions and performance of the organisations.

3.4 CONCLUSION

This chapter has outlined the methodology used to collect firm and non-firm institutional data, required to carry out a comprehensive case study of the nature of development of the mechanical engineering manufacturing sector in Zimbabwe.

Given the concern with path dependency and institutional legacies, the analyses in Chapters 6 and 7 have to be viewed against the economic history of mechanical engineering and industry more generally in Zimbabwe since UDI. This is covered in the next chapter.

4 THE HISTORY AND POLITICAL ECONOMY OF INDUSTRIAL DEVELOPMENT IN ZIMBABWE: 1965 - 1990

4.1 INTRODUCTION

This chapter provides a broad overview of the historical influences on and pattern of development of manufacturing industry in Zimbabwe from UDI until 1990. As with the rest of the thesis, the focus is on the engineering sector. Together with an examination of relevant macro and sectoral data, this critical review provides a background to the analysis of the post-liberalisation industrial experience, contained in subsequent chapters.

This chapter draws mainly on secondary sources, including officially published statistics and other Zimbabwean publications, the published work of other authors, and interview notes.

4.2 MANUFACTURING SECTOR PERFORMANCE

Several writers suggest that the events of the UDI period (1965-79) heavily influenced the range of possible policies open to the government following independence in 1980 (for example, see Ndlovu (1992:75)). For a variety of reasons, there were few fundamental changes to the overall structure of the highly regulated policy framework in the first decade following independence. There was, however, a distinct shift in policy emphasis away from state support of international and settler capitalists. An examination of the UDI period, the policies followed and the political-economic outcomes is essential to understanding the early post-independence period and the economic policy changes after 1990.

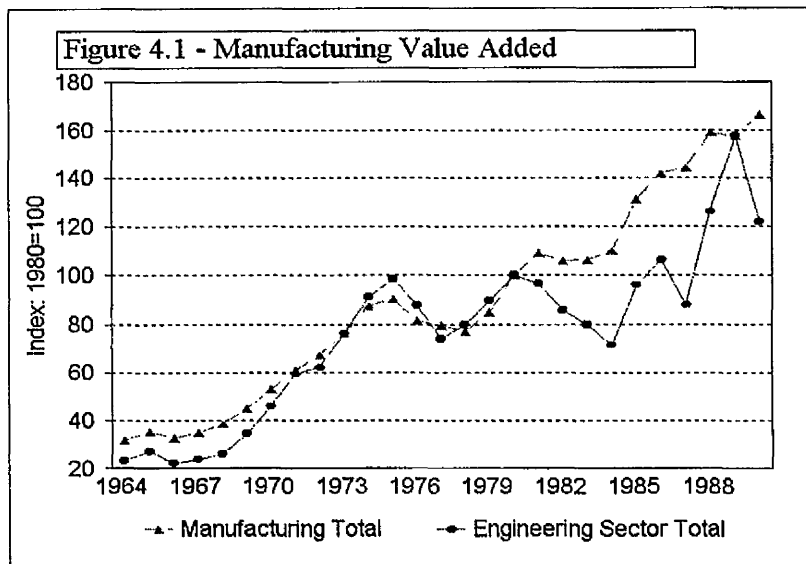
In this section, we examine the evolving role of engineering in the context of manufacturing development in Zimbabwe. The engineering industry is a key part of manufacturing, but also includes important non-manufacturing activities like repair and maintenance services. In this analysis, we focus on the higher value adding, manufacturing sectors of the industry. Many engineering products are aimed at other productive sectors of the economy, whether they be

agricultural implements and machinery, equipment for the mining sector, or machinery for other manufacturers. In addition, a number of products are produced for final consumption.

Overall Pattern

Zimbabwean manufacturing went through several phases during the period 1965-90. These are illustrated in Figures 4.1 to 4.6. They can be characterised as follows:

- 1966-1974 early UDI - rapid growth
- 1974-1978 late-UDI - declines in most performance indices
- 1978-1981 independence - brief growth spurt
- 1981-1984 regulated post-independence - small declines in most indices
- 1984-1990 focus on exports - return to slower growth.



Source: CSO, *Quarterly Digest of Statistics* (various)

Engineering's share of GDP grew from around 4 percent in the late 1960s, to 8.4 percent by 1975. The average periodised growth rates for manufacturing as a whole and the engineering sector are shown in Table 4.1.¹

¹ The value figures shown are single deflated using the manufacturing GDP deflator calculated from the *Quarterly Digest of Statistics*. Prior to 1974 the CPI is used as a proxy for the deflator.

Table 4.1 - Manufacturing Sector Average Annual Growth Rates, 1966-90

Period	Real Gross Output	Real Manufacturing Value Added	Net Capital Expenditure	Employment
TOTAL MANUFACTURING				
1966-74	12.5%	13.2%	23.9%*	8.0%
1974-78	-3.8%	-3.1%	-25.4%	-1.7%
1978-81	11.8%	12.2%	47.6%	7.8%
1981-84	-2.8%	0.3%	-19.4%	-1.8%
1984-90	7.0%	8.5%	21.8%**	2.5%
ENGINEERING SECTOR				
1966-74	16.9%	19.5%	36.8%*	12.7%
1974-78	-5.3%	-3.3%	-36.1%	-3.4%
1978-81	10.8%	6.5%	36.3%	7.3%
1981-84	-10.3%	-9.5%	-30.7%	-5.0%
1984-90	13.4%	16.4%	30.8%**	3.0%

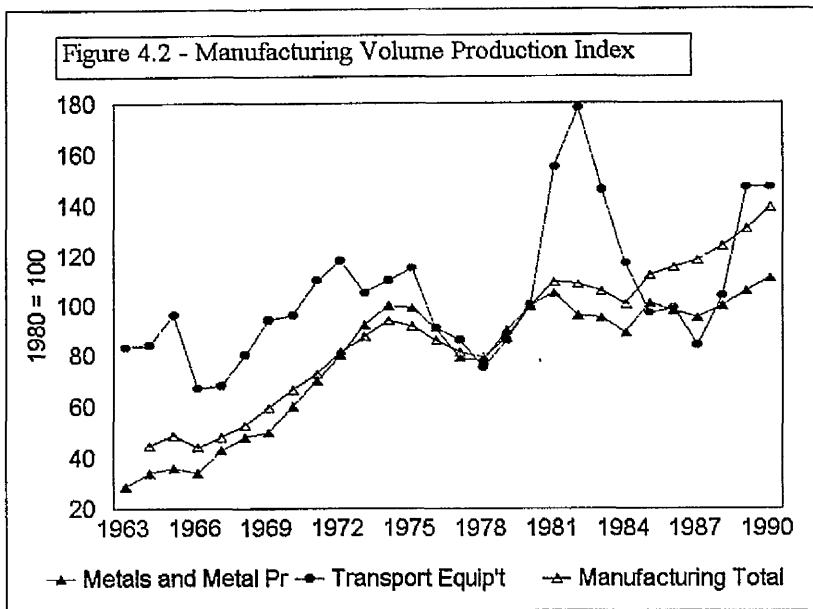
* 1967-74 only

** 1984-88 only

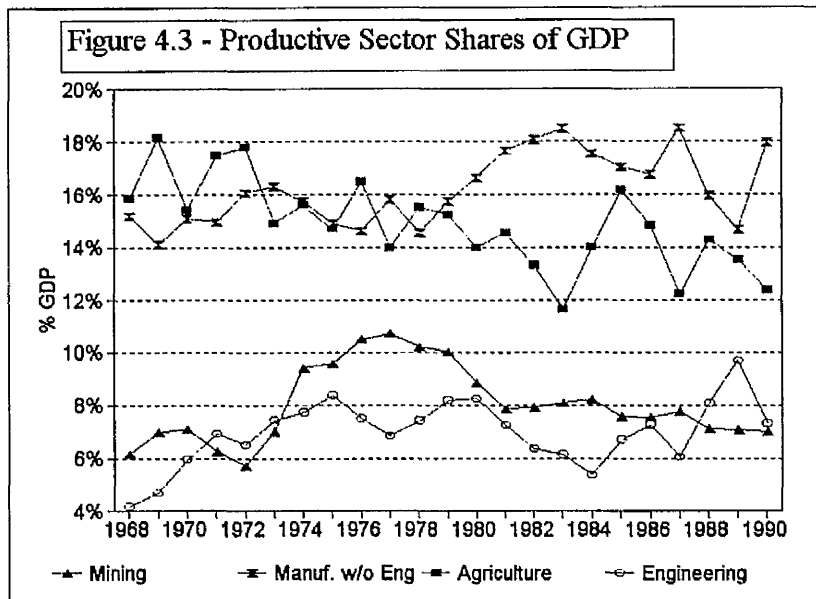
Source: CSO, *Quarterly Digest of Statistics* and *Census of Industrial Production* (Various)

The performance of the engineering industry has been more strongly influenced by the behaviour of GDP overall (year-on-year correlation of 0.89 - from 1966-1990), than any individual productive sector (see Figure 4.3).² The most influential sector appears to have been agriculture (correlation of 0.85). Growth rate correlations are not as clear, the strongest also being between overall GDP and agriculture (both at around 0.6). The declines in engineering output after 1981 and 1986 were associated with steep drought-induced declines in agricultural output between 1981 and 1983, and 1985 and 1987. The impact worked through a drop in demand for agricultural outputs and inputs, a reduction in incomes in the sector, and a consequent increased shortage of foreign exchange.

² Excluding engineering from GDP itself the correlation coefficient reduces to 0.87.



Source: CSO, *Quarterly Digest of Statistics* (various)

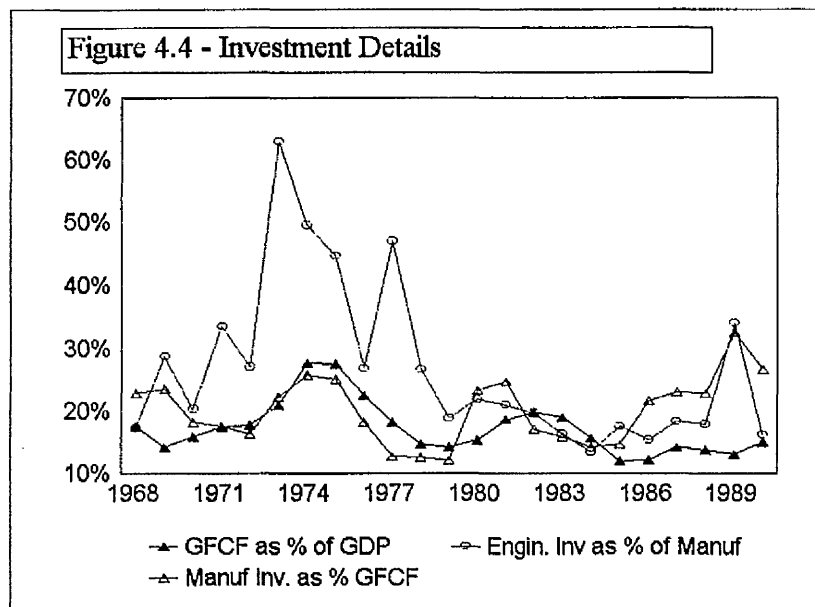


Source: CSO, *Quarterly Digest of Statistics* (various)

The lack of reliable input-output data makes it difficult to track precisely the impact of changes in one sector on another.³ In Zimbabwe, the last input-output table was produced in 1965 and has not been substantially revised since. It is considered unlikely that the coefficients established in the 1960s would be of much relevance in 1990, as the shape of manufacturing changed throughout the period. Furthermore, the ways that data are disaggregated in the Census of Industrial Production and other official statistics are not fine

³ For example, see use of this technique to examine inter-sectoral linkages in South Africa in Fine and Rustomjee (1996).

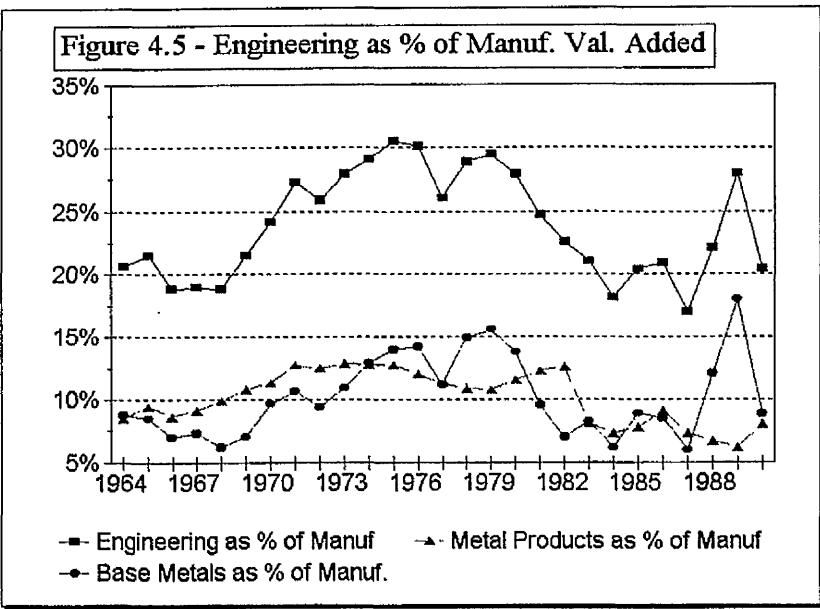
enough to be able to divide products by the sectors that are providing their inputs or most likely to be using them. This also means that attempting to suggest the percentage of the manufacturing sector which carries out minimal value-added processing of raw materials, for example, is impossible from the data available.⁴



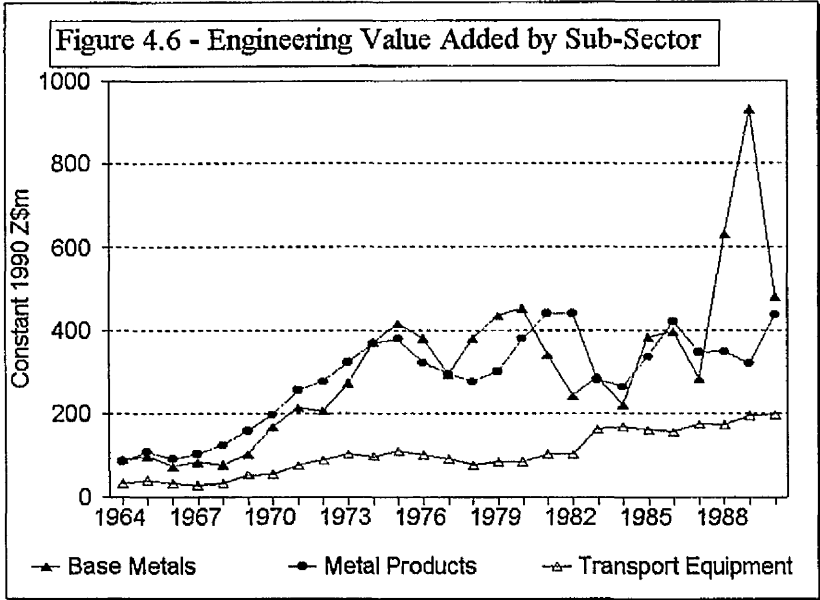
Source: CSO, *Quarterly Digest of Statistics* (various)

One feature of this analysis is the dependence of aggregate figures, in relatively poorly integrated developing economies like Zimbabwe, on a single sub-sector or firm. For example, total real manufacturing value added, including the iron and steel sub-sector grew by 7.5 percent annually between 1987 and 1990, but only by 2.7 percent without this subsection.

⁴ See Appendix 4.1 for more detail on the sources and use of official data on Zimbabwe.



Source: UNIDO, *Industrial Statistics* and CSO, *Quarterly Digest of Statistics* (various)



Source: UNIDO, *Industrial Statistics* and CSO, *Quarterly Digest of Statistics* (various)

The economic isolation imposed on the Rhodesian regime after the declaration of UDI in 1965 can be viewed as leading to the intensification of import substituting industrialisation. Riddell attempts to disaggregate the sources of growth between 'import substitution', 'growth in domestic demand' and 'export growth' (Riddell, 1990a: 341-4).⁵ He breaks down the year on year changes in output according to whether they are replacing imports in the previous

⁵ His main motivation appears to be to clarify issues about the relative impact on growth of import substitution versus export orientation.

year, meeting increases in domestic demand (of products already produced locally), or export driven. He finds that there was greater import substitution before UDI, while post-UDI it was mostly increases in demand for goods already produced domestically which drove growth. The emphasis on actuals says nothing about planned consumption levels, however. As foreign exchange availability diminished during the later UDI era, this constrained the importation of inputs, as well as final products, even in product areas where there may have been no domestically available substitutes for imports. Moreover, this analysis does not account for the rapid expansion in the range of products produced locally during the early part of the post-UDI era.⁶

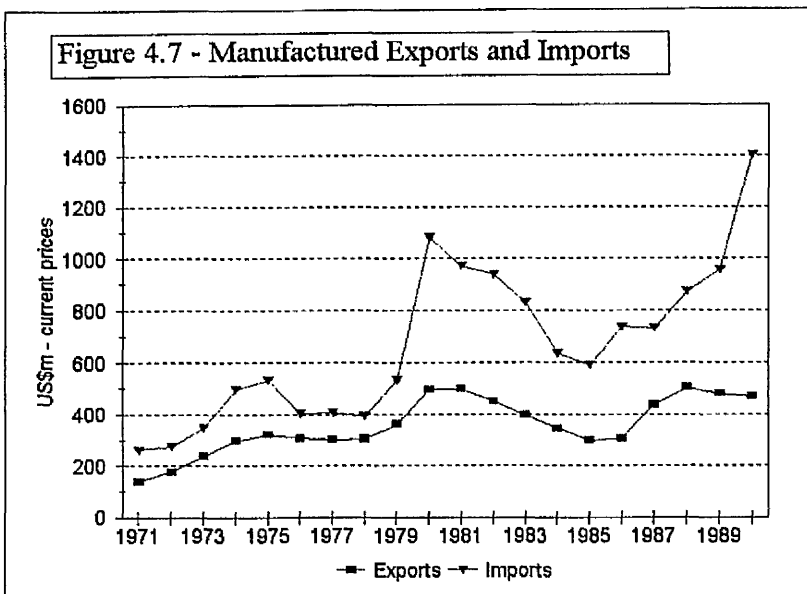
Historical Path

Engineering growth during the first ten years of UDI was rapid, with rates in excess of 10 percent per annum for gross output in each engineering sub-sector between 1967 and 1974, except for motor vehicle assembly. Ford liquidated its plant during this period, possibly as a result of international sanctions. Efforts were focussed on making iron and steel one of the leading export sub-sectors, with a shift to exporting more value-added products. Between 1965-6 and 1974-5, the proportion of exports that were in the form of pig iron compared with higher value-added ingots, billets and blooms went from 6.6:1 to 1:1.⁷

Foreign exchange scarcity and the escalating costs of the war took their toll after 1975. Domestically, there had been a significant surge of investment from 1972 to 1975 (see Figure 4.4), which undoubtedly created significant excess capacity. This investment led to the

⁶ The methodology is not well explained in Riddell's book, the best account appears in Lewis, Sharpley and Harvey (1990: 74-75). There are also a number of technical problems with the analysis relating to the quality of data. In the Zimbabwe account, trade classifications are made to correspond to industry ones, but there may be mis-classifications, also there are timing issues, the actuals for trade may reflect goods produced in different years. Nonetheless, it is considered that the split between export and domestic demand is unlikely to be significantly wide of the mark.

⁷ Figures calculated as two year average, taken from Kalyati (1991), Table 5.



Source: World Bank, 'Stars' data, 1993a

accumulation of huge stocks through the late 1970s.⁸ The creation of excess capacity led to problems after independence, with inadequate revenues being generated to service properly, maintain and replace machinery. This may have subsequently made local capitalists more cautious about undertaking new investment (see Section 4.3.3).

Around independence, there was a brief flurry of increased investment activity. The backlog of demand for capital equipment replacement and manufactured inputs, and a surge in demand resulting from increasing real incomes, were met by liberalised imports (World Bank, 1990: 6).⁹

Manufacturing exports had declined from 15 percent of merchandise exports in 1964 to 6 percent in 1979 (see GoZ, 1982:7). In the engineering sector, crude estimates suggest exports fell as a percentage of gross output from over 30 percent in 1980 to under 20 percent by

⁸ Bond (1993: 11) argues that under consumption was not the main problem. This was 'overaccumulation', leading to 'over investment' in both heavy industry and luxury consumer goods. Pragmatically, however, there is no difference between the two. Bond fails to answer the more interesting questions about the reasons for the pattern of investment adopted by firms and why the drive into exports was not strong enough to increase demand for the escalating stocks (sanctions notwithstanding).

⁹ In 1982, the exchange rate appreciated to its highest post-independence level (World Bank, 1990: 6) and imports supplied 42 per cent of the domestic consumption of capital goods, whereas they had only supplied 19 per cent in 1980. The value of locally manufactured capital goods consumed was lower in 1982 in real terms. (ibid., Figure 2.3: 16).

1982.¹⁰ As a result, the nominal current account deficit rose from Z\$157m in 1980 to Z\$533m by 1982 (Muzulu, 1993:85). The post-independence increase in the availability of foreign aid and foreign borrowings was insufficient to avoid a foreign exchange crisis in 1983.

Following this crisis, there was a further decline in the substantially import-dependent investment expenditure (see Figure 4.4).¹¹ For the engineering sector, investment as a percentage of net output fell from 17.1 percent in 1981 to 8.4 percent in 1985.¹²

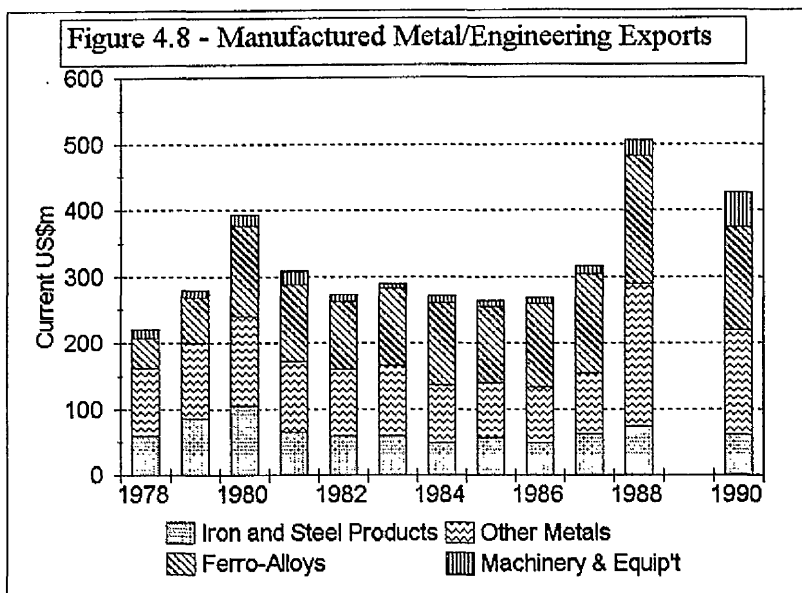
The government led a concerted effort to improve exports and foreign exchange earnings in the mid-1980s, through the introduction of a number of schemes, including the Export Incentive Scheme (in the early 1980s) and the Export Revolving Fund (in 1983). They contributed to exports increasing as a percentage of real gross manufacturing output from 4.1 percent in 1981 to 18.9 percent in 1990 (Muzulu, 1993:238).¹³ The recovery of engineering exports was assisted by the increasing value of ferro-alloys (see Figure 4.8), as well as a sharp increase in the value of nickel exports in 1988. The high reliance on exports of relatively low value-added products is shown by the very small percentage of total engineering exports accounted for by machinery and equipment exports, throughout.

¹⁰ Calculation from CSO data.

¹¹ Between 1983 and 1986 the volume of capital goods imports fell by 34% (Muzulu, 1993:86).

¹² These figures are for net investment expenditure taken from the *Census of Industrial Production* data.

¹³ Muzulu used World Bank's World Tables for time series data on manufactured exports and unpublished data from the CSO for exports by commodity classification (ibid.: 112-113)



Source: CSO, *Quarterly Digest of Statistics* (various)

Note: There are no figures available for 1989.

Growth in the manufacturing and engineering contributions to GDP returned after 1985 (see Figure 4.1). The late 1980s saw a relative decline in most metal product sub-sectors focussed on the domestic market, while according to official data there was rapid growth in the value of base metals production between 1987 and 1989, with real value added increasing at an average annual rate of 86 percent.¹⁴ This collapsed again by 50 percent in the following year.

4.3 POLICY DETERMINANTS

In this section, we critically examine explanations for the evolution of the national economic policy framework, as it affected manufacturing. We develop an account, which is based on the evolution of social relations and institutions during the 'closed' economy era. It establishes the paths and norms against which decisions were made to move away from that long-running policy regime in the late 1980s.

¹⁴ This compares with average growth during the previous three years 1984-7 of 8.1 percent and seems rather excessive given other complementary data (see Appendix 4.1 for discussion on the difficulty of reconciling industry and trade data).

4.3.1 The UDI Period

During the UDI period, the state served a coalition of often conflicting 'white' interests, including capitalists, skilled labourers and others within the governing institutions. With the racial basis of the social structure inhibiting the fuller development of capitalist class relationships, there was a deliberate attempt to match the interests of these various classes, with a social identification at the national level. Under this umbrella of racially-based common interest, there were still conflicts, however, which became increasingly open and transparent in the later years of UDI (Godwin and Hancock, 1995: 14). These conflicts often had their roots in pre-UDI differences. The Association of Rhodesian Industries (ARnI) represented both local operations of foreign owned firms (mostly British and South African), as well as local white capitalists. Since the late 1950s, the ARnI had lobbied for 'closing' the economy to protect infant industries. Up to 1966, this had been resisted by commercial, agricultural and mining capitalists (Skalnes, 1995:62).

Following the introduction of international sanctions, trade and industrial policy were linked, with "a policy of selective tariff protection as the major incentive to industrial development ..." (Ministry of Commerce and Industry, 1972:16). The Industrial Tariff Committee approved new goods for import control (quotas and high tariffs), with preference to "growth industries"; industries producing import substitutes; industries producing inputs for local manufacture; and industries with good export prospects. Through the Industrial Projects Committee, which approved new investment projects, the government effectively controlled most investment. Without approval, it was impossible to obtain the foreign exchange required for new equipment.¹⁵ The system was supplemented by rebates of duty "for specified uses in manufacturing" and duty drawbacks for imported inputs into export production. The evolution of industrial policy is explored in more detail in Chapter 6.

It is not very clear from available documentation, how the various sub-sectors of manufacturing and different industrial groupings were prioritised. It was argued early on in the import control systems's life, that insufficient priority was given to industrial interests as opposed to commercial ones (see Girdlestone, 1968). This implies that industrial investment

¹⁵ The 1971 Annual Report of the Secretary for Commerce and Industry gives a full description of the various measures for implementing industrial policy (1972: 14-16).

may have been lower, with more rents going to merchant or commercial capitalists, than if the system had been more consistently directed towards productive activities. The regulations were primarily based on historical allocations, which meant that firms which had a poor import performance in 1964/65 were penalised thereafter. New firms found it particularly difficult to become established.¹⁶ Once the annual ceilings for commerce and industry were set, the control of foreign exchange disbursements was managed by ARnI and ACCOR committees, giving further preference to established interests. Most product diversification, therefore, was undertaken by existing firms (World Bank, 1990a:2).

It can be deduced, therefore that the system was designed to ensure the majority of the 'white' community benefited from economic development. This enabled policy makers to maintain a balance of white class interests, and, thus, a majority of support behind the UDI government and 'national' unity. In the context of the struggle for independence, the drive for industrialisation was accorded secondary importance to the defence of white interests.

Nonetheless, government regulations did play a key role in the economic achievements of the first part of UDI. Legislation was passed to ensure that companies' actions were in the 'national interest'. For example, redundant workers had to be paid to ensure that they were rapidly redeployed (Wield, 1982). Repatriation of foreign profits and dividends was not allowed, encouraging reinvestment. The state also facilitated the flow of private capital to manufacturing through the Industrial Development Corporation (IDC).¹⁷

What is not immediately clear is why the economy and the state were able to achieve such satisfactory results before, but not after, 1974. The independence war is at the root of the most convincing explanations about the eventual decline. By the mid-1970s, many of those who had provided the core of national skills, were emigrating or seriously contemplating

¹⁶ See Report of the Commission of Inquiry into Import Control (1975). The report mentions a number of these type of technical problems with the controls, including many intimations of abuse of the system, including that by the members of the ARnI (Association of Rhodesian Industry) and ACCOR (Associated Chambers of Commerce of Rhodesia), who were able to administer much of the system themselves. It was also noted that there was no provision within the system favouring the introduction of new technological developments through imports. It is not clear what amendments were made to the system following the report (ibid: 15-17).

¹⁷ The IDC had been formed prior to UDI in 1959, but became a useful vehicle for the interventionist UDI government. Its investments in the engineering sector included motor assembly and metal products.

doing so (Fallon and Lucas, 1993:245). Given the lack of any serious effort to educate and train the black population (see Section 4.6 below), shortages of skills appeared (Riddell, 1990a:352).¹⁸ The exodus of skills is likely to have affected government as much, if not more, than it did the rest of the economy. Emigration also meant that domestic demand fell for many local products, which predominantly met the needs of 'white' consumers, fell. Furthermore, the remaining whites were becoming increasingly demoralised, which undoubtedly had a negative impact on their productivity, as well as their feelings of 'national' unity (see Godwin and Hancock, 1995).

External factors also affected macro-economic performance, if not the government's capacity. The oil price rise in 1973-4, together with sanctions, meant that Zimbabwe had some of the highest oil prices in the world after 1974 (Fallon and Lucas, 1993:245). This increased balance of payments problems, causing a severe foreign exchange shortage by the mid-1970s.

These factors contribute to understanding the poorer post-1974 performance, but do not explain the previous good performance. As in many 'war economies', this resulted from the "sense of unity and solidarity among the settler community which provided the drive and incentive to diversify, invest and engage in widespread sanctions-busting operations." (Riddell, 1990a:352). With "the industrialists and government of the day sharing a determination to overcome the impact of international sanctions, the system of controls was made to operate effectively." (Robinson, 1993:1).

Dependency-type explanations, which have been prominent among Zimbabwean analysts, only attempt to explain the worsening performance after 1975. Difficulties are suggested in following a capitalist development path in a peripheral economy, when the local market is very limited, as a result of the lack of penetration of capitalist relations (Raftopoulos, 1986).

None of the established views provides a satisfactory explanation, of the government's success in developing its capacities during the early part of UDI. Such an explanation requires stepping further back, to an analysis of the British colonial administrative structure.

¹⁸ Neither of the above authors mentions numbers of emigrants as percentages of skills categories, so it is difficult to assess just how serious it was, but the general observation that the most capable and qualified find it easiest to relocate indicates that the net impact was likely to be greater than the percentage of skills lost.

The close bonding of many colonial bureaucrats and the local settler population led to a closely knit white population.

The declaration of UDI led to the establishment of an implicit social and political pact to protect settler interests at all costs. As the independence struggle intensified, the white community weakened. With the intensification of the war and the deterioration in the economy, despondency increased, morale fell and increasing numbers of an already small community left the country.¹⁹ Cohesion between the various 'white' classes diminished. Many capitalists became defensive, secretive (encouraged by active public relations campaigns), inward-looking and concerned with protecting their individual interests, rather than an increasingly ill-defined 'national' one. The enthusiasm and attitude of defiance to the world, which had driven the early successes, evaporated. The very reasons which made the government effective and the economy strong in the early UDI period, had the opposite impact in the later era.

4.3.2 Post-Independence

After Independence, government continued the interventionist strategy, albeit with a change in emphasis. In the foreword to the Transitional National Development Plan (TNDP) Mugabe suggested the Plan was the "first endeavour at socialist transformation" (1982:i). The document itself is littered with references to "the ultimate goal of an egalitarian socialist and integrated society" (ibid.:2). There are mixed signals elsewhere in the document. Mugabe also suggested that "ample room has been reserved for performance by private enterprise" (ibid.:i).

Despite an avowed commitment to socialism, few changes were made to the inherited industrial policies during the first decade after independence (see Chapter 6 for more details). The major initial impact, was the greater emphasis given to the interests of workers (see 4.5 below), through the introduction of minimum wage and employment protection legislation in 1980. Price controls were tightened as well, ostensibly to bring down costs to the poor and reduce the perceived high level of profits accruing to the private sector (World Bank,

¹⁹ Numbers of whites dwindled in both relative and absolute terms after 1976 (Godwin & Hancock, 1995).

Limited efforts were actually made to take direct control of "strategic" industries. In the engineering sector, government assisted a few firms nearing bankruptcy, including Stainless Steel Industries and F Issels, which were acquired by the Industrial Development Corporation. These firms are reported as not achieving substantial change in their management teams or capability after the take-overs. (World Bank, 1990a:11). From independence to 1990, few new enterprises were established in the sector either by foreign or local investment (see 4.3.3 below).

The lack of major policy shifts was paralleled by a lack of structural change in industry. The favouring of workers' interests was short-lived, as real wages started to decline again after 1983 (see 4.5 below). The new government's actions amounted to populist appeasement, in the face of pent-up aspirations over-flowing into post-independence wild-cat strikes.²⁰ Moyo suggests government actions favoured the status quo to maintain stability through a 'politics of compromise' (1992:312-313). Skalnes notes the stronger influence of the more organised voice of business, balancing an implicit labour bias (1993:209-212). Ndlela, writing from a dependency perspective, noted the lack of change within the business sector. Zimbabwean industry was still characterised by the dominance of international capital (with local capital closely tied to it) and dependence on imported inputs and technologies (1986:156).

The continued dominance of established enterprises "was entrenched by the continuation of economic policies which explicitly gave established enterprises privileged access to key resources (particularly foreign currency)" (Robinson, 1993: 2/3). Price controls limited profits, so the focus for accumulation shifted to attempts to increase access to foreign exchange. With allocations still administered by industry and commerce's representative bodies, the establishment of more favourable annual ceilings required cordial relations between capitalists and the relevant government agencies. Robinson's account shows the mechanics of policy continuity, but lacks dynamic agency. It does not explain why the policies remained unchanged.

²⁰ See Sachikonye (1993), Skalnes (1995) and Shadur (1994) for alternative views on labour relations aspects, which, although taking somewhat different stances, note the continued ineffectiveness of organised labour after independence (see discussion in 4.5)

While the broad pattern of emerging capitalist social relations was maintained, important changes were taking place. These prepared the ground for the shift in the policy framework in 1990. After independence, "[t]he close working relationship between government and industry, that had been part of the explanation of the success of industrialisation under sanctions, ceased to exist" (UNIDO, 1993:3). Nor did a strong set of policies favouring workers' interests develop. In order to establish why the apparent initial maintenance of the status quo changed in 1990, analysis is required of the differing interests within the post-independence ruling class.

The Importance of Class

Several authors have attempted class based analyses of the political economy of post-independence Zimbabwe.

Dashwood (1996) sees a conventional capitalist class emerge from the ruling post-independence elite and identifies its common interests with the pre-existing (white) agrarian and industrial elites. She cites "a broad based consensus in the scholarly and journalistic literature that members of the ruling elite have enriched themselves" through the acquisition of farms, businesses and corruption (ibid:33). The introduction of a leadership code in 1984 is taken as a sign that some within government and ruling party had already begun to accumulate wealth (loc. cit.).

Phimister, echoing Mandaza (1986), saw independence as opening a 'state' path to accumulation for the African bourgeoisie. The 'petit bourgeois' leaders of the independence struggle never had any obligations to the urban working class.²¹ Yet, due to historical weaknesses resulting from the repressive and exclusionary nature of the colonial regime they were unable to mount a serious indigenous challenge to the interests of international (and settler) capitalists (Mandaza, 1986:57).

Herbst suggests government used its control over the regulatory framework to "create a new class of Black businessmen, by giving them preferential access to import licenses."

²¹ Phimister in a seminar presented at the School of Oriental and African Studies, London, on March 1, 1995.

(1990:120). While it appears that accumulation did take place as a result of such access,²² the relationship between emergent black capitalists and those in government during the 1980s is unclear. Ostergaard takes the view that the former were dependent on and beholden to the latter (1994:117). He suggests that once established in political power, the "governing group" developed a fear of the rise of a black industrial bourgeoisie, which might contest power. Little was done to promote its development. Instead, in order to preserve the productive capacity of the economy, those in power entered into a tacit alliance with existing (white) capitalists, who posed less of a political threat. Taylor (1997) develops this argument further, suggesting the government deliberately suppressed the emergence of a black middle class, by co-opting a few indigenous economic actors and marginalising others that it could not co-opt.²³

In the dependency approach of Mandaza (1986), much is 'blamed' on external historical factors and little attention is given to the potential for independent action by the new leaders. For example, an apparent lack of debate about the possibility that the state might take more direct control over the means of production, is implicitly ascribed to the fettering and historical constraints of "the midwife of imperialism" (ibid: 50) and machinations of international aid donors (ibid:39). On the other hand, there was rapid Africanisation of the civil service (ibid:44 - and see below).

Given the imposed 'ring-fencing' around 'white' business, the continuance of the pre-independence ownership structures, as noted by Ndlela (1986), is not surprising. During the 1980s, black Zimbabweans wanting to get into the private sector as capitalists, were publicly criticised. Nonetheless, as blacks' share of formal employment increased, so did their share of the pension fund and insurance company monies invested in listed companies, although not their effective control over the investment of those funds. The increased emphasis on earning foreign exchange after the government abandoned the IMF programme in 1984, intensified the need to promote exports. Without a substantial change in the share of public ownership in the productive sectors, export expansion was mostly left to existing private firms. Industrial capitalists' allocations from the Export Revolving Fund increased from 23

²² This point was made by a significant number of interviewees.

²³ Taylor (1997) further argues that this pattern was strengthened into the 1990s - see Chapter 5.

percent in 1983 to 62 percent in 1988.²⁴ Within the latter group, firms already exporting were increasingly favoured. These firms received 15 percent of industrial allocations in 1983 and 71 percent by 1988.

Notwithstanding these favours shown to some white capitalists, the implication that the white capitalist class benefited strongly from the policies followed in the 1980s (see Ostergaard (ibid) and Taylor (ibid)), is not supported by the data. For example, private (non-financial) firms' gross operating profit share of gross domestic income was over 30 percent between 1979 and 1983. This fell to approximately 27 percent in the mid-1980s and did not change substantially before 1990.²⁵

Moreover, government's share of GDP and employment increased rapidly post-independence (see Table 4.2). Reduced real wages enabled government to increase public employment despite the relatively weak macro environment. The figures in Table 4.2 under-represent the full share of the economy controlled by government, as it was also modestly increasing its share of the productive sectors.²⁶ For example, it is estimated that in 1981, through ZISCO, F Issels and Lancashire Steel, government contributed approximately 17 percent of the total output of the metals and metal products sector (UNIDO, 1985:44).

Table 4.2 - Government Share of GDP and Employment 1968-1990

Year	Total Government Share of GDP	Education Share of GDP	Total Government Share of Employment	Education Share of Employment
1968	25.5%	3.7%	14.9%	3.8%
1975	21.9%	4.3%	14.3%	3.4%
1980	25.2%	5.2%	17.9%	4.1%
1983	29.7%	9.0%	22.9%	7.6%
1987	31.9%	10.0%	25.2%	9.1%
1990	30.6%	9.1%	24.2%	9.1%

NB Government Total = public administration, education, health, transport and communications and water and electricity
Source: CSO, *Quarterly Digest of Statistics* (various)

²⁴ Figures from the "Performance audit report for the Zimbabwe manufacturing export project", which had supported the Export Revolving Fund (World Bank, 1990b:14).

²⁵ Figures calculated at current prices from various *Quarterly Digests of Statistics*.

²⁶ This is countered to a limited extent by the inclusion of private transport operators and educational institutions.

Many of the above analyses are predicated on perceiving the 'state' as being dominated by a class apart from the rest of society, which is problematic (see Chapter 2). An alternative analysis would appreciate the accumulation of wealth through the state's mechanisms alone does not make a class; the ruling elite is not a homogenous group; moreover, not all members of the new government were 'petit bourgeois'. (Cokorinos, 1984).²⁷ Conflicts were inevitable. Most obviously, the interests of senior bureaucrats were likely to develop differently from those of the politicians directing their work (James, 1995), even when they all came from a common 'struggle' background.

By the late 1980s, there was no resolution of whether accumulation by independent private interests, or those close to or involved in government, was going to take precedence. Partly as a consequence, a comprehensive industrialisation strategy had not emerged (see Chapter 7). Understanding why particular policies were adopted involves paying more attention to the previous and emergent divisions within the pre-existing capitalist class, the consequent variety of alliances and contests between its members and members of the new 'elite' and the impact of these influences on relevant institutions. For example, available literature pays little attention to the impact of conflicts between the old colonial administrative cadres and the new political leaders after independence, the lack of experience of the new rulers and administrators, and the impact of the emigration of large numbers of Europeans after the mid-1970s (see Chapter 7).

From Mandaza's viewpoint, after independence, a comprehensive shake-up in the established order had been required, but the colonial ideology was so deeply entrenched that some of the African petty bourgeoisie "doubted their own capacity to rule efficiently without the assistance of the whites" (1986:47). However, as early as 1981, 52 percent of the senior administrative, professional and technical positions were occupied by blacks. By 1984, this had increased to 84 percent.²⁸ Mandaza was head of the National Manpower Survey in 1981

²⁷ The type of analysis attempted by Cokorinos does not adequately identify how the petty bourgeois roots or associations of particular individuals may have influenced their views. Furthermore, it is also important to acknowledge that individuals do not need such roots to aspire to, or adopt capitalist habits, lifestyles and prejudices.

²⁸ Figures are from *Annual Review of Manpower* (Ministry of Manpower, Planning and Development, 1984:35, table 3.9).

and therefore in an excellent position to comment on these matters. The weakness of his dependency-based arguments, relating to the lack of local options given the colonial legacy, precisely sums up the problem of that post-transition era. Too many individuals in the new government lacked a vision of how the country would be able to extricate itself from the legacy and rise above it. Effective political direction may well have meant that white bureaucrats could have been used to meet the demands of the new political rulers.

One of the legacies of the colonial and UDI eras was a shortage of educated, skilled and experienced blacks to undertake the transformation. This had an impact on management capacity in the public sector. In 1986, it was noted that the "coordinative capacity of the state still leaves much to be desired" (Ndlela, 1986:157) and that there had been "a disturbing loss of certain key skills from the public sector." (Raftopoulos, 1986:308).²⁹ Apart from the loss of experienced whites, black skilled staff were leaving due, in part, to the problems of wage and salary differentials between public and private sectors, especially given the increasing use of supplementary benefits in the private sector (see section 4.1.4). The number of professionals in the public service fell from 2.1 percent of total employees in 1981 to 1.8 percent in 1984.³⁰ Furthermore, the process of Africanisation was not without "some very serious incidents of corruption, incompetence and inefficiency" (Raftopoulos, 1986:311).

It is possible that support for the status quo emerged because the political leaders found it easier to continue with old familiar control structures and their associated institutions, rather than to try and create new, viable and effective forms of state intervention. A more detailed institutional analysis is required.

4.3.3 Investment

One of the most important contributions to the continuing poor economic performance during the 1980s was a lack of productive investment. Discussion of investment determinants and issues are provided by Dailami and Walton (1989) and Muzulu (1993). Dailami and Walton's approach suffers from many of the drawbacks of typical neo-classical investment function

²⁹ There is a frustrating lack of data to back up these views. Bennell and Strachan refer to the "complete absence of reliable performance indicators and accompanying data" (1992:27).

³⁰ Figures from *Annual Review of Manpower*, as noted in footnote 28.

analyses, as critiqued by Rustomjee (1993).

In the private sector, the level of investment was directly related to the availability of foreign exchange. Most capital goods required for manufacturing, as well as inputs for production, especially in the engineering sector given the technologies in use, had to be imported.³¹

Productive investment was government directed through the Industrial Projects Committee, both during UDI and after, but it was mostly undertaken by the private sector.³² After independence, the government used the Industrial Development Corporation to invest in joint ventures and strategic firm rescues.³³ Government presided over a short-lived investment boom in infrastructure after independence (see Figure 4.9), which rapidly faded after the crisis of 1983.

Notwithstanding the policy commitment to attracting foreign and domestic private investment (GoZ, 1982:37), there was a difference in attitude towards existing and new investors and between local and foreign. Among already established firms, local capitalists were favoured, as it was perceived they would be more likely to reinvest profits and identify their interests more closely with the national economy (Ostergaard, 1994:131-3). It is impossible to ascertain the truth of this, as local capitalists who were contemplating leaving Zimbabwe would have had to resort to illegal means to export capital and build external centres of accumulation. Certainly, by the end of the first decade of independence there were many white capitalists who were yet to identify Zimbabwe as their home, or contemplate making substantial additional investment.³⁴

New regulations were passed to encourage existing foreign investors to reinvest their earnings (Herbst, 1990:138-9), while the dependency-influenced government was not keen

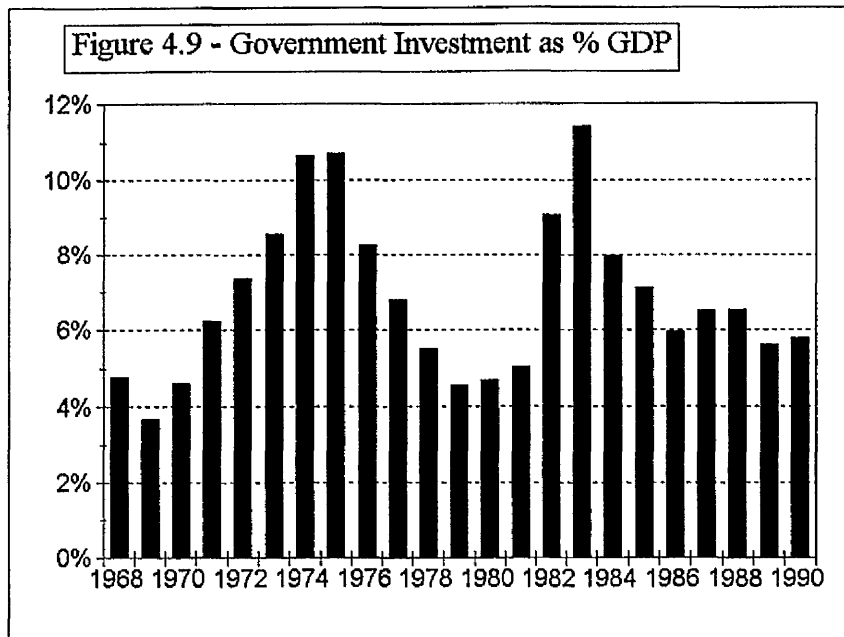
³¹ There were a number of different causes of the foreign exchange constraint itself. These included: difficulties associated with boosting exports significantly under sanctions during UDI; and, their decline in the short lived boom in domestic absorption around independence. Other causes were beyond the scope of Zimbabwe's influence, such as the downturn in the international lending environment shortly after independence, with the onset of the debt crisis.

³² See Bond (1993) and footnote 8 above.

³³ See *First Five Year National Development Plan*, 1986-90, Vol. 1 (GoZ, 1986:30)

³⁴ See various interview notes.

on facilitating new foreign investment (ibid.:123-5). The latter policy may have had some short-term domestic political advantages, but it did little to reduce the feelings of caution



Note: Government Investment includes capital expenditure on electricity and water, transport and communications, education, health and other public expenditure. It does not include any shares of other productive sectors
Source: CSO, *Quarterly Digest of Statistics* (various)

among existing investors.

As noted above, ZANU-PF rhetoric and a lack of overt support measures discouraged independent indigenous investment. The establishment of the Small Enterprise Development Corporation (SEDCO) and the Zimbabwe Development Bank (ZDB) was intended to support financially smaller and larger enterprises respectively. In neither case were these institutions very successful in assisting new enterprises (Nicholas, 1994:102-3).

Moreover, government's lack of purposeful public investment in production, based on a well-conceived industrial strategy, meant that the public sector did nothing to replace failing private industrial investment. Overall, as happened under UDI for different reasons, existing investors were therefore protected from possible new competition.

In the latter part of the 1980s, because the confidence of many capitalists was increasing, both in their own continuity and in the government's competence, and, with increasing exports

easing the foreign exchange constraint, there was a marginal increase in investment (see Figure 4.4). While non-manufacturing investment was flat at between 9 and 11 percent of GDP between 1985 and 1990, manufacturing investment rose from a low of 1.8 percent of GDP in 1985 to a high of 4.2 percent in 1989. It is not clear, however, what percentage of this investment was really new investment, rather than replacement, upgrading of existing capacity or pent-up plans which had been inhibited due to foreign exchange constraints.³⁵

By the late 1980s, increasing accumulation by emerging black capitalists, whether through their links within government or independently, meant that government's rhetorical opposition to the private sector was beginning to conflict with the interests of a steadily larger group of people close to government.

4.3.4 Setting the Scene for Policy Shifts

Examining the process that led to the introduction of the Economic Structural Adjustment Programme (ESAP) in 1990, provides another clue to the evolution of policy after independence.

Externally, the main instigator of the drive for 'reforms' was the World Bank. It refused to consider extending its US\$70.6 million mid-1980s loan for the Export Revolving Fund, without more general reforms, in line with Bank practice across the continent. Two key country reports published in 1987,³⁶ were followed by research by Dailami and Walton (1989), Fallon and Lucas (1993) and a Bank report on the capital goods sector (World Bank, 1990a). Together with the establishment of the Bank's representative office in the mid-1980s, these reports were part of the Bank's drive for policy change. With a very engaging and politically adept first Resident Representative,³⁷ the role of the Bank in pushing for a more orthodox macro policy framework should not be underestimated. Such policies would not have been introduced, however, without internal forces pushing in the same direction and without a growing acceptance of such policies within government circles.

³⁵ This could benefit from further research.

³⁶ *Zimbabwe - A Strategy for Sustained Growth* and *Zimbabwe - An Industry Sector Memorandum*, (World Bank, 1987a).

³⁷ See interview notes: 23 April, 1996.

The strongest initial support came from the Zimbabwe National Chamber of Commerce (ZNCC). They were feeling neglected as a result of government support for the export push. Primary commodity producers also desired greater openness, to provide easier and cheaper access to inputs. Yet, it was only once the industrial capitalists were persuaded of the need for change that capitalists, under the umbrella of the Zimbabwe Association of Business Organisations (ZABO), were able to present a united face to government in support of change (Skalnes, 1995:124). Latent conflicts remained submerged, such as that over the most desirable sequence of liberalisation (ibid.:129).

Industrial capitalists had been divided between domestic-oriented manufacturers, who supported protection, and exporters calling for trade liberalisation to assist in their efforts to procure inputs. It took the foreign exchange crisis of 1987/8 for the Confederation of Zimbabwean Industries (CZI) to resolve this conflict in favour of the exporters (ibid.:126-130). Those firms exporting more, tended to be the larger firms, which were among the more vociferous and more influential members of the CZI.³⁸ In addition, the World Bank country studies of the late 1980s encouraged local manufacturers to believe they were sufficiently well entrenched in the domestic market, to beat foreign competing products, even if these became available more cheaply.³⁹ Moreover, many capitalists failed fully to appreciate the negative effects of rapid exposure to greater foreign competition (see Robinson (1993) and Skalnes (1995:138)).

The financial and organisational resources at the disposal of the settler-dominated lobbying groups, the CZI, ZNCC, CFU (Commercial Farmers Union) and others, enabled them to carry out an intensive government lobbying campaign in the late 1980s. Given its ambivalence towards the private sector, and the relative strength of capitalist groupings, the government did not manage to establish a single representative body for capitalist interests, in the same way as it had for workers (Skalnes, 1995:100-101). This lobbying for policy change was also supported by the non-government controlled press, as represented by the *Financial Gazette*.

³⁸ See Chapter 7.

³⁹ See Riddell's example of Tinto Industries and their machine-drawn agricultural implements (1990a: 357)

These increasing pressures provided motivation for the political leadership to consider change. Of key importance, however, were changes within government circles, which meant the 'voices' of the previously ignored domestic and foreign capitalists, became increasingly influential. In 1987, within government structures, only the Senior Finance Minister, who had World Bank experience, and technocratic senior Reserve Bank officials were in favour of adopting "market-friendly" changes (Skalnes, 1995:132). Nevertheless, three years later these were introduced.

Explaining the dynamics of change in the late 1980s, Skalnes emphasises the increasing influence of outside lobbying interests, in the face of an internal policy-making vacuum. Dashwood suggests it was the 'embourgeoisement' of the governing elite, however, that led them increasingly to identify their interests with those of established 'agrarian' and 'entrepreneurial' capitalists. Both writers stress realisation by those in government of the potential political threats posed by rising unemployment.⁴⁰ Yet, neither offers a sufficient explanation for the increasing influence of a 'market-friendly' group within the political leadership, that was eventually able to persuade Mugabe that change was required.

Herbst identified a split within the ZANU-PF leadership between 'technocrats' and (nationalist) 'ideologues', which led to gradual occupation of most of the economic ministries by the former group (1990:230-4). This is reflected in the divergence between the government's 1980s socialist rhetoric and its continuing failure to introduce socialist economic policies. The technocrats, many of whom were western trained, were receptive to arguments based on orthodox economic rationality, as put forward by the World Bank. They were increasingly concerned about the limitations of the government's administrative and directive capacity (see above), as well as the chronic and ongoing shortages of foreign exchange and new sources of investment. With the discrediting of many 'ideologues' and the departure from Cabinet in 1989 of a number of them, as a result of the Willowgate corruption scandal,⁴¹ the pro-change group consolidated its political influence.

⁴⁰ See for example, *Budget Statement, 1987* (GoZ, 1987:38) and Ministry of Labour, Manpower Planning and Social Welfare, *Fourth Report of the Inter-Ministerial Task Force on Employment Creation*, cited in Dashwood (1996:42).

⁴¹ See *Report of the Commission of Inquiry into the Distribution of Motor Vehicles* (1989).

Many ideologues were also among those most strongly behind the drive for a one-party state. Its adoption would have provided them with greater certainty of being able to use access to the mechanisms of state control to pursue their own accumulation strategies. The eventual abandonment of the one-party state drive by September 1990 had more to do with a groundswell of dissent from "various institutions in civil society" and within the ruling party (principally from the same technocrats), than any organised political opposition (Sachikonye, 1991). Chidzero and other 'technocrats', may have hoped to use the abandonment of the state-run economic control structures to reduce future possibilities for overtly corrupt behaviour and to 'clean up' the ruling party's image. At the same time, they were trying to increase possibilities for independent accumulation by blacks within the private sector.

The labour movement and socially marginalised groups, including rural dwellers, had little effective representation among influential policy makers. They had no influence on the design of the ESAP programme. The trade unions' capacity to mobilise vocal dissent and lead a strong coalition against the new policies was judged to be too weak to cause undue concern (Sachikonye, 1995:46). The unions were accommodated by promises of both the employment generation potential of the programmes and freer collective bargaining.

Thus, a significant, albeit limited shift, occurred in the nature of capitalist social relations, away from the primarily race-based system prior to independence. The coincidence of interests between established capitalists and government 'technocrats', was instrumental in forging the path to adoption of ESAP. In so doing, despite supposed concerns about increasing unemployment, there was a marginalisation of the interests of the working class and the poor, as evidenced by the lack of consultation in the design of ESAP and its limited emphasis on social welfare and equity considerations.

4.4 PRODUCTION EFFICIENCY AND COMPETITIVENESS

Much previous analysis has focused on how to increase price 'competitiveness', and on the achievement of export orientation, rather than on examining the determinants of structural efficiency in production (Amsden, 1997). In terms of long-run dynamism, however, the latter is more important. The relation between structural efficiency and relative price changes is

complex and is dependent on changes in industrial structure over time.

In Zimbabwe, structural efficiency improvements were complicated by a number of factors not directly related to the changes in price 'competitiveness'. These included: the methods of allocating foreign exchange; the lack of locally developed technological capacity and organisational innovation; variations in levels of management competence and experience, attitude to labour relations, training, skill levels; and, other institutional factors, including the histories of particular firms.⁴²

Price and Other Types of Competitiveness

Nonetheless, one of the main justifications made for the introduction of the ESAP programme was that shifts in relative prices to reflect market scarcities would encourage firms to become more efficient and 'competitive'. While this argument was based in neo-classical theory, supportive empirical research was conducted in the late 1980s.⁴³ This research attempted to demonstrate the negative implications of the existing controls, and the positive outcomes of the proposed policy shifts.

Several surveys of Zimbabwean industry examined the question of efficiency in production.⁴⁴ Using neoclassically based measures such as Domestic Resource Costs (DRCs), and Total Factor Productivity (TFP), they found much production to be efficient and competitive. The World Bank was 'puzzled' by the results, as their studies were conducted during a period when production 'benefitted' from protection and industry structure was mostly highly oligopolistic (1990a:38). The Bank itself questioned these findings concerning competitiveness, noting that in the post-independence boom, while "sales of capital goods increased by 30 percent from 1980-82, sales of domestic capital goods stagnated" (ibid. 6). Nonetheless, the Bank used its findings to intimate that exporting firms would have a good chance of success in post-liberalisation local and regional markets.

⁴² These are discussed below and gave direction to the field research analysed in Chapter 6.

⁴³ See Section 4.3.4 above.

⁴⁴ These include the Jansen report (1983), UNIDO (1985), World Bank (1990a), Ndlovu (1994) and Mlambo (1994).

The total factor productivity calculations used in the research discussed above require a number of assumptions for validity. These include constant returns to scale, perfect competition and factor rewards measuring corresponding contributions to output (Fine, 1992). None of these holds true in Zimbabwe (or, arguably, virtually anywhere), which undermines the results.

Price is only one aspect of competitiveness in the marketplace. The wide range of DRC scores within individual manufacturing subsectors (Robinson 1993) indicates that a 'correct' macro framework and incentive structure are inadequate for achieving competitiveness (Riddell, 1990a:350). DRCs are not a guide to long term comparative advantage, which is "a function of the evolution of the firms over time, which in turn is determined more by managerial and technical skills than by technological relationships" (Robinson, 1993:5). Product quality, design, timeliness of delivery, after-sales support and other non-price factors also affect competitiveness.⁴⁵ It appears that in its early phases, protection may have assisted a number of Zimbabwean firms to move along the learning curve and achieve greater structural efficiency.

The age and condition of capital equipment influence the need for technological upgrading and new investment. Given the outdated technologies and equipment then in use, the technical efficiency of many Zimbabwean producers was dubious by the late 1980s. The lack of equipment replacement led to wasteful production methods (World Bank 1990:18) and raised operating costs for some firms.⁴⁶

Increasing competition is not the only way to influence efficiency improvements. In Zimbabwe, the latter also resulted from government-administered price controls squeezing profits (Riddell, 1990a). This did not always produce the desired result, however. Even when there is good quality data available, it is problematic to set the 'right' price level, in order to: limit profits; provide an incentive for efficiency improvements; and, still leave sufficient incentive for investors to pursue their productive venture. For the metal products

⁴⁵ See research reported in Chapter 6.

⁴⁶ Older machines were reported by the World Bank (*loc. cit.*), however, as having the advantages of being less prone to breakdowns and having spares made locally. Kaplinsky contrarily found that older equipment increased production costs, due to high machine down-time (1994:155-7). The field research found a mixed picture in this regard (see Chapter 6 below).

sector, there was the additional impact of ZISCO's pricing policy. Exported steel was sold more cheaply than steel in the domestic market.⁴⁷ This undercut export opportunities for downstream producers of value-added products, and there was no rebate system for exporters, such as exists in South Africa.

Given various problems with updating technology and investment, efficiency was often enhanced through improved training, recruitment of higher skill levels and reorganisation of production (Riddell, 1990a:354-358). This established a path, which was also followed after ESAP.⁴⁸

Industrial Concentration

Greater industrial concentration need not have a negative impact on efficiency and competitiveness. In a case study of firms manufacturing manual or animal-drawn agricultural implements, Riddell argued that while only two firms were supplying the domestic market, there was sufficient competition, especially in export markets, to keep costs down and deter collusion (1990a: 354-358).

By 1990, the manufacturing sector as a whole had become characterised by high levels of concentration. The fact that increasing concentration coincided with inefficiency in production, need not imply any causal relationship, however. Many early settlers' firms were little more than extended workshops, with small outputs, low capital to labour ratios and low productivity. Alongside these developed a small number of "firms with much greater capital stock and annual output, which substantially exceeded the average for the industrial sector as a whole." (Kaplan, 1977:285, quoted in Phimister, 1988:255). With the rush into local manufacture around the time of UDI, and lack of standardisation, many smaller firms ended up manufacturing similar products. For example, during the 1970s ten companies produced refrigerators and nine produced wet batteries, (Wield, 1982:164). Competitive pressures led to increasing concentration. By 1982, 50 percent of the more than 6000 separate manufactured products were produced by only one firm each and 80 percent were produced

⁴⁷ While dual pricing is standard industry practice, it was the lack of rebates for exporters which was the critical factor in disadvantaging local firms.

⁴⁸ See Chapter 6.

by three firms or less (UNIDO, 1985:29).⁴⁹

Furthermore, between 1970 and the late 1980s, employment and output became concentrated in larger enterprises (see Table 4.3).

Table 4.3 - Percentage distribution of Units, Employment and Net Output by Size 1970 and 1988

Employment Size Category	< 50	51-200	201-1000	> 1000	Totals No./Z\$
Units 1970	71.1%	19.5%	7.8%	0.6%	1,240
1988	54.2%	17.7%	15.2%	2.8%	1,082
Employment 1970*	11.1%	28.1%	35.7%	15.1%	125,600
1988	6.8%	16.7%	38.5%	37.9%	182,649
Net Output 1970	11.2%	26.6%	48.0%	14.0%	307m
1988	5.6%	14.3%	41.7%	38.4%	3,804m

* The figures in Bennell add up to 90%.

Source: CSO, *Census of Industrial Production 1970/71* (cited in Bennell (1992: 139)) and 1988/89

High concentration levels are not necessarily detrimental to the development of industry.⁵⁰

By controlling the possible accumulation of extraordinary profits, the price control system may have limited some negative effects of monopolistic/oligopolistic structures (Riddell, 1990a). For example, no significant relationship was observed between profitability, as proxied by 'prime cost mark-ups' and concentration in 1986/87 (Bennell, 1992:140-141). Yet, some possible gains from greater concentration may have been lost. For example, the difficulty in capturing rents from innovation may have diminished incentives to innovate.

⁴⁹ For the engineering sector (at broad four digit ISIC levels), four firm concentration ratios were relatively low at less than 40% by 1986, having risen from lower figures in 1970 (Bennell, 1992, Table 1:137). The best known measure of concentration, the Herfindahl-Hirschmann index, regrettably could not be measured due to a lack of access to CSO data.

⁵⁰ Indeed, they may be quite the opposite, South Korea has developed rapidly on the basis of four or five major industrial groupings (Amsden, 1989).

4.5 TREATMENT OF WORKERS

Labour productivity is an important component of efficiency and competitiveness. It is a function of many worker characteristics, including effort, motivation, training, and skills. It combines with labour costs in a complex and non-deterministic relationship. For example, the extra effort produced by workers if they are paid more, may not necessarily compensate for the additional cost.

This section examines the main changes in the treatment of workers in Zimbabwe from 1965 to 1990, and organised labour's efforts to improve workers' treatment. There is no research available from this period linking changes in the treatment of workers to changes in firm or industry performance.

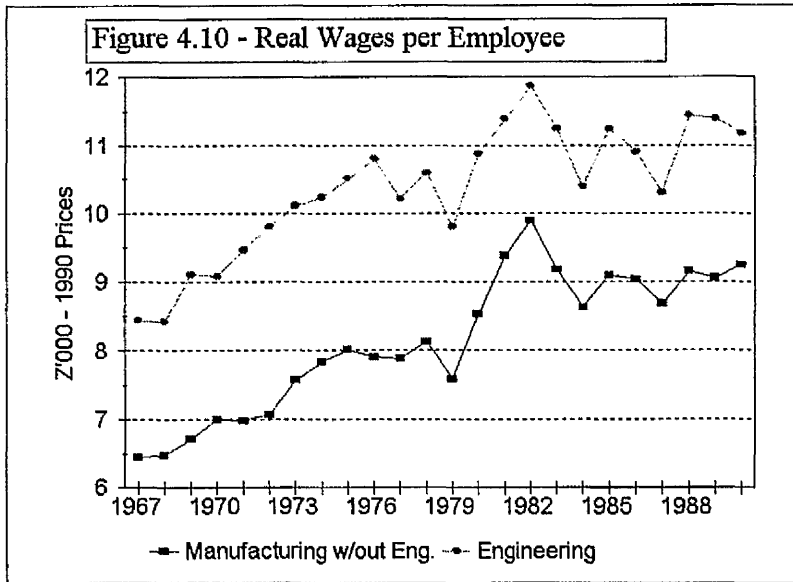
Despite the post-independence socialist rhetoric, real wages decreased for most workers during the 1980s, after an initial above-trend improvement between 1980 and 1982 (see Figure 4.10). This trend was accompanied by various measures which did little to improve, and in some cases further weakened the capacity of trade unions to represent workers' interests. This failure to develop an effective 'voice' explains why workers' interests were treated so cursorily in developing the ESAP programme.

4.5.1 Wages and Employment Conditions

The changes in real consumption wages during the closed economy era are shown in Figure 4.10. Real wages rose steadily during the early part of UDI along with economic growth. During this period, overt interventions restricted access to, and conditions of, employment of African workers, with "(s)killed jobs, apprenticeships, and better education ... largely reserved for the Europeans" (Fallon and Lucas, 1991:397). In 1978, "the overall annual earnings of Europeans were some 10.4 times greater than those of African employees, the ratio being 7.3 in manufacturing and 24.5 in agriculture" (ibid.). The sharp rise in wages following the introduction of wage regulation after independence was partly a consequence of attempts to reduce this differential. The increase was shortlived, however, due to wage restraint associated with the mid-1980's macro stabilisation measures (Kanyenze, 1993:132). A similar pattern of change was observed in the engineering sector, although a significant

wage differential existed in favour of engineering workers.

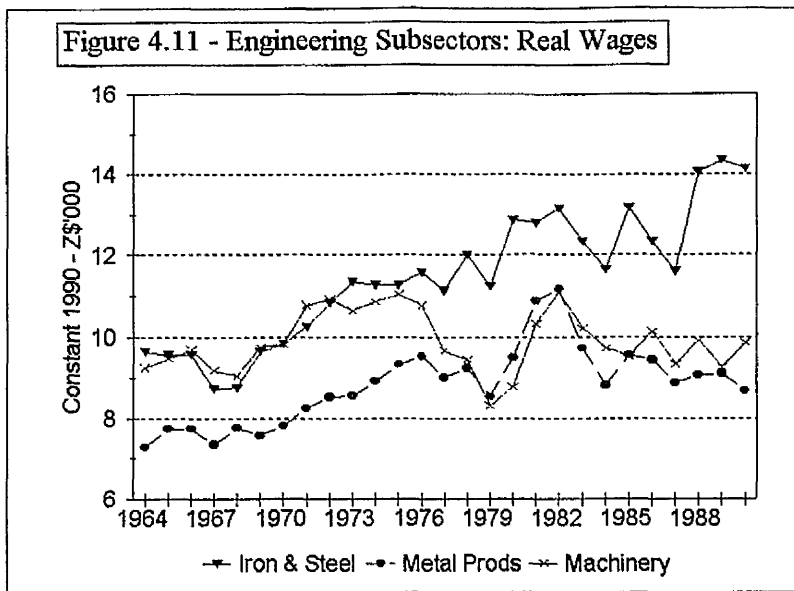
From Figure 4.11, we can see that the principal reason for the positive differential in favour of the engineering sector, is due to the iron and steel sub-sector. ZISCO, with its close affiliation to the government, was paying its workers consistently higher wages than other firms. After independence, this differential between ZISCO and the rest of the metal products sub-sector increased from 36 percent in 1980 to 63 percent in 1990.



Source: CSO, *Census of Industrial Production* and *Quarterly Digest of Statistics* (various)

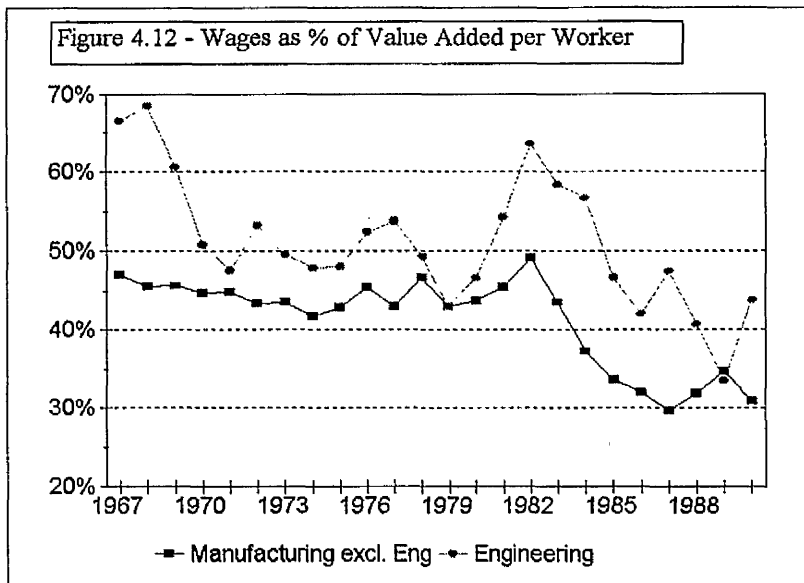
Looking at real wages as a percentage of value added, the evidence shows that there was also a sharp increase around independence, but a more pronounced decline thereafter, as value added per worker rose while real wages were static or declined (see Figure 4.12).

This reflected the national shift, as revealed by the percentage of Gross Domestic Income (at factor cost) accounted for by wages and salaries, compared to that accounted for by gross operating profits. Between 1982 and 1990, the former fell from 60 percent to 51 percent,



Source: CSO, *UNIDO Industrial Statistics* and *Quarterly Digest of Statistics* (various)

while the latter rose from 38 percent to 43 percent.⁵¹ Within manufacturing as a whole, the changes from peak to trough are shown in Table 4.4. The post-1982 shift in favour of profits



Source: CSO, *Census of Industrial Production* and *Quarterly Digest of Statistics* (various)

is clearly seen; by 1984, their percentage share increased to levels above their peak during UDI.

⁵¹ CSO, *Quarterly Digest of Statistics* (various).

Table 4.4 - Profit and Wage Shares of Manufacturing

Year	Gross Output Share		Value Added Share	
	Profits	Wages	Profits	Wages
1967	13.8%	18.4%	42.8%	57.2%
1974	17.0%	16.1%	51.4%	48.6%
1980	16.6%	17.3%	49.0%	51.0%
1982	12.5%	19.2%	39.5%	60.5%
1984	20.8%	17.7%	54.1%	45.9%
1989	27.1%	14.7%	64.8%	35.2%

NB Profits [gross] are calculated as the residual after wages and payments for services are deducted from net output - all calculations at current prices

Source: CSO, *Census of Industrial Production* (various)

Employment protection legislation did provide some improvement for workers. The job security regulations were described as "among the most onerous prescribed anywhere" (Fallon and Lucas, 1993:242). The "coverage extends to all sectors of the economy, and to all establishments irrespective of size. ... casual workers, who may be employed for a maximum of six weeks in any three-month period, are excluded from the permission clause. Contract workers, on the other hand, are protected by Zimbabwe's Employment Act for the duration of their fixed term contract." (ibid.:243). Casual workers had to be paid at twice the minimum wage, however.

There are various views of the impact of this legislation. Firms began to employ more workers on a short-term contract basis (less than six months), due to the difficulties of disciplining workers without the threat of dismissal, and the difficulties of firing if market conditions changed, or following poor performance (World Bank, 1990a:18). It is possible that reductions in firm productivity resulted from the difficulty of matching workers with specific jobs; temporary workers acquiring fewer firm-specific skills; and problems of adverse selection associated with golden handshakes for voluntary redundancy. The most productive workers, who could most easily obtain new jobs, were the first to take advantage of such schemes (Fallon and Lucas, 1993:251). Thus, workers were employed repeatedly on short-term contracts to try and mitigate some of these problems.⁵² There was also an increase

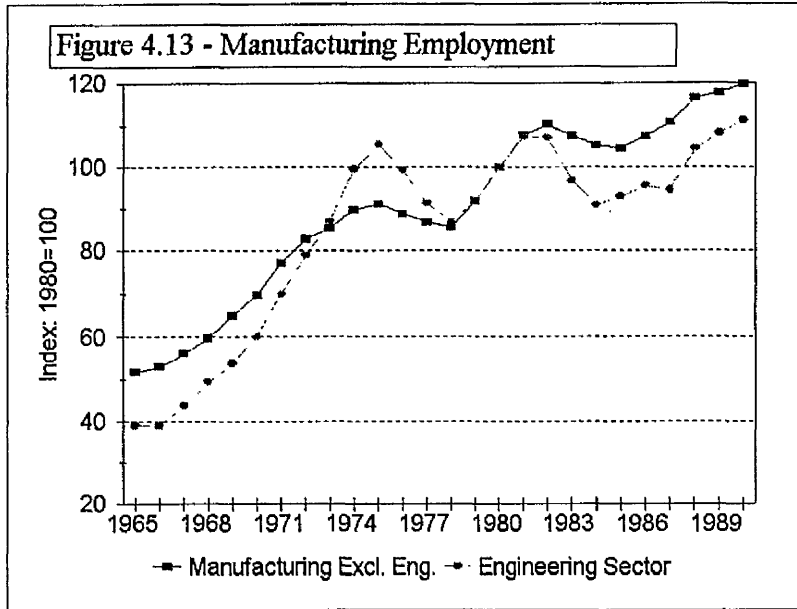
⁵² See Chapter 6 for empirical support.

in the number of less than full-time employees in manufacturing, which rose from 5.0 percent of the workforce in 1985 to 9.3 percent in 1991 (Kanyenze, 1993: 224).

Firms may also have employed fewer workers, as a result of the legislation. An attitudinal survey undertaken by the World Bank revealed that, "as a result of" the strict legislation, firms indicated a preference for employing more capital intensive, rather than labour intensive techniques (1990: 18). By "raising turnover costs and perhaps by lowering productivity, job security regulations may thus act as a tax on employment, effectively raising the cost of labour. ... [which] would then tend to encourage adoption of more capital-intensive production techniques, to shift production away from more labour intensive processes, and hence to reduce the demand for labour." (Fallon and Lucas, 1991:402). However, the determinants of capital intensity were rather complex. The shortage of foreign exchange led to problems in changing techniques. Other important influences on capital intensity include investment incentives, cost of borrowing, and tax deductability of interest costs (Muzulu,1994:217).

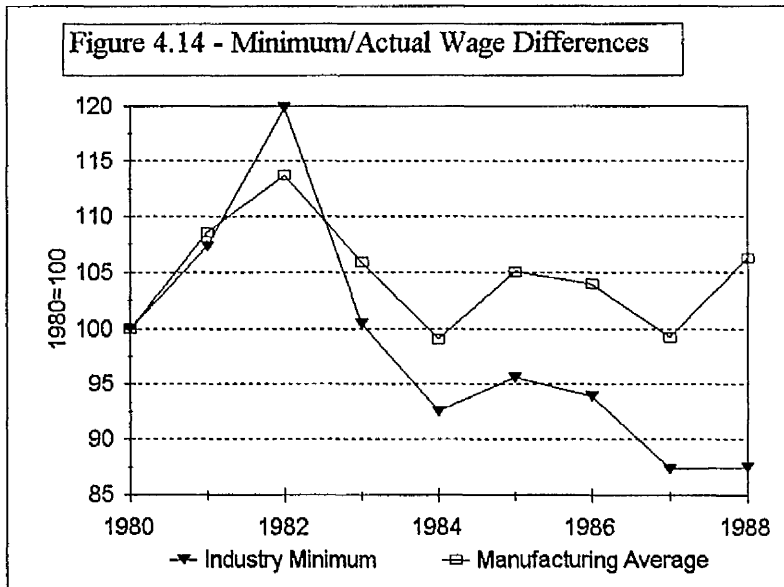
Throughout the 1980s, weak employment creation remained one of the greatest problems facing Zimbabwe (see Figure 4.13 for recorded employment). Employment growth was lower in engineering than in the rest of manufacturing. More generally, the number of formal sector jobs created was tiny compared with the numbers of job market entrants. Attempts to link this directly to weak demand, resulting from the employment legislation, have been inconclusive (see Hawkins et. al. (1988) and Fallon and Lucas (1993)). One result highlighted, without an explanation being offered, was that the greatest fall in employment was in the fastest growing industries (Fallon and Lucas, 1993:268). Other labour market changes from pre- to post-independence may have had some impact, including the loss of white skills. Furthermore, much of the sting of the employment security regulations was removed by the switch to contract hiring (Sachikonye, 1993:257), as opposed to not hiring at all, although this has other disadvantages, as indicated elsewhere.

On the supply side, there was no critical shortage of skilled labour in the late 1980s, although this varied between skill categories, with a shortage of pattern and tool makers and journeymen. A sustained upswing would have meant that capacity boundaries would have been reached relatively quickly across the board, in the absence of some other changes in the



Source: CSO, *Census of Industrial Production* (various)

structure of production and skills supply (World Bank, 1990:18). While the emigration of



Source: Knight (1996, Table 4.1.1) and CSO, *Census of Industrial Production*, 1988/89

white skills around the time of independence may have contributed to a shortage of

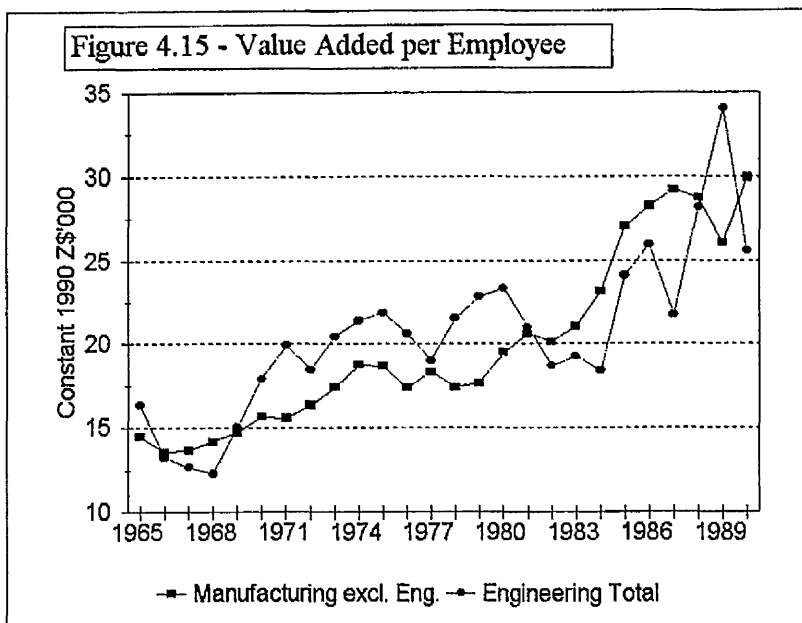
experienced workers, this shortage was more due to the failings of Zimbabwe's post-independence education and training system (see 4.1.5).

While there is evidence to suggest that the 1980-82 period shifted the earnings structure as a whole above its historical trend (Kanyenze, 1993:173), the legislative interventions after 1982 did not reduce real wages directly.⁵³ Average wages actually declined less rapidly than the legislated minimum (see Figure 4.14). The multiple of average wages over the minimum increased from 2.8 in 1982 to 3.6 in 1988. This may have been a reflection of the payment of relatively high wages by a number of firms (see Chapter 6) and partly because of increasing differentiation in real incomes, as a result of the use of benefits and promotions as ways around the legislated maximum increases (Shadur, 1994:125).

Productivity continued to rise in terms of value added per employee after independence (see Figure 4.15), despite falling real wages. Yet, the real wage decline may have served to temper the rise in productivity, as workers may have engaged in extra occupations, altered their diet and adopted other survival strategies (Kanyenze, 1993: 48). Morale, effort, and the incentive to be trained may well have fallen, while absenteeism may have increased (*ibid*: 165). Chapter 6 explores these influences in greater detail.

By 1991, real wages having fallen for most of the 1980s, Zimbabwean employers were aware of both the need to limit further wage declines and the potential power of organised labour. Employers therefore agreed to significantly higher wage increases than the government recommendations (Sachikonye, 1993:257-8). This implies that government's earlier

⁵³ See Fallon and Lucas, (1993:253) and Knight (1996:20) - although see also the impact of the 1985 Labour Relations Act in 4.5.2 below.



Source: CSO, *Census of Industrial Production and Quarterly Digest of Statistics* (various)

intervention in wage setting probably suppressed real wages below levels acceptable to most employers, as supported by the previous findings (above) of growth in the differential in excess of the legislated minimum.

4.5.2 Labour Relations: the Impact of Organised Labour

During UDI, white workers were encouraged not to identify with black workers. Rather government (and self interest) urged them to align their interests with those of white capitalists, in pursuit of the exploitation of black workers. In order to maintain high wages, white unions successfully blocked the training of blacks as skilled labour (Raftopoulos, 1986:275-283). Black skills were persistently down-graded, job categories were reserved for whites and black professional and skilled workers were under utilised. By the mid-1970s, however, as the rate of white emigration increased, changes were observed. Manufacturing firms were forced to become more dependent on black skills (Wood, 1988:288), although this was frequently not recognised in remuneration or status terms.

Prior to independence, black trade unions had difficulty pushing for significant change. The Industrial Conciliation Act was made explicitly non-racial in 1959, but the weighting of votes towards those with higher skills, reinforced the white preference (Cheater, 1992a:3). Organisations representing their members' interests on the basis of race, colour or religion

were prohibited, which helped to keep black unions marginalised. Intimidation, detention and torture were also used against the black labour movement in the years before independence (Wood, 1988:286-7).

Under colonialism, black workers were treated as temporary migrants into the urban and industrial areas. The system was dependent on the fact that migrants retained access to rural subsistence production which, however, was insufficient to meet family needs (Potts and Mutambirwa, 1990:678). This changed slowly. By the early 1990s, it was reported that a significant proportion of urban workers still had access to communal lands and migrated to towns for their working lives (Sachikonye, 1993:249 and Rasmussen, 1992:99).

Over time, the picture became more mixed. Even prior to independence, residence in urban areas became a permanent feature, despite influx control measures (Potts and Mutambirwa, 1990:683). As workers gained firm-specific skills, employers were less willing to support the rotating migrant system. Workers in Cheater's case studies are "the 'urbanised' offspring of proletarians, their subsistence depended not on access to rural land, but on gaining employment" (1992b: 73). They looked to their companies to offer them lifetime employment and provide jobs for their families and children. By the mid-1980s, many were not using their access to land to contribute to their income or subsistence (Potts and Mutambirwa, 1990:688). An increasingly established urban proletariat offered greater prospects for the establishment of strong trade unions

The post-independence government professed to support workers' interests, while adopting policies which failed to create more private sector jobs,⁵⁴ or to improve worker livelihoods. Following the spate of wildcat strikes in 1980, the government was most concerned to minimise disruption to the economy caused by labour disputes. "Balancing workers' interests and government's national development goals became a constant feature underlying state labour policy ..." (Shadur, 1994:3). As the minimum wage and job security legislation was passed in 1980, simultaneous efforts were being made to minimise strike opportunities. Government inspired the formation of the Zimbabwe Congress of Trade Unions (ZCTU) in July 1980, as a single umbrella representative body for workers. The government justified

⁵⁴ See Section 4.3.3 on investment.

this policy by reference to the historical weaknesses of the black trade unions. The ZCTU made the government's task of trying to control worker opposition much easier, as it had only one body to deal with (Shadur, 1994:76-77).

The ZCTU leadership quickly became subservient to government and party. Lack of leadership accountability led to a drop in membership during this period, as members 'exited' to show their discontent. The most serious decline occurred in the engineering industry unions (Wood, 1988:297). This was due to particular industry characteristics. In this case, the large number of operating units and the power of the employer federation "provided ample scope for intense (union) leadership factionalism and employer manipulation", as well as corruption (ibid:298).

In the mid-1980s a new ZCTU leadership was appointed, "but they were still circumscribed and circumspect in what they said and did ..." (Shadur, 1994:111). Unions only gradually became more critical of government policies and voiced concerns about declining standards of living. This may have gained them greater attention, but did little to encourage an improvement of the weakened links between the unions and the shopfloor, in particular in the face of the establishment of plant level workers' committees (see Kanyenze, 1993:95, and below).

Unions were further compromised by the passage of the 1985 Labour Relations Act (LRA). This provided for Employment Boards and Councils to negotiate collective bargaining agreements, although in practice wages were determined by Cabinet after consultation with employers, represented by the Employers' Confederation of Zimbabwe (EMCOZ), and the ZCTU, through the Wages and Salaries Review Board (Herbst, 1990:209-210). With the better organisation of EMCOZ, relative to the ZCTU, the LRA was another change relatively in favour of employers. EMCOZ was able to present a strong case against high wage increases, as being bad for employment creation (Herbst, 1990:210-211).

The Minister of Labour was given very considerable powers over the membership and activities of both unions and employers' organisations (Shadur, 1994:140, and Cheater, 1992a:7). While free to initiate their formation, unions had to be registered or certified to collect dues and to act on behalf of their members; and were subject to the Minister of

Labour's discretion for permission to continue. They were also prohibited from using their funds for political purposes. The Minister was also able to institute the holding of elections within the unions and employers' associations, "where the national interest so demands" and even without that proviso, to intervene in the internal operations of these organisations (LRA, 1985:209). The number of employers' organisations or unions was limited to one per industry. The Minister also had to approve the level of membership dues. This situation only started to change after 1989, linked to other elements of the 'liberalisation' changes (see Chapter 7).

Workers' committees, which had appeared spontaneously during the 1980 wildcat strikes (Wood, 1988:291), were formalised to deal with industrial relations matters at the plant level. They provided a counter-weight limiting the influence of the unions, and led to the virtual absence of the shop steward structure in Zimbabwe. "Although in many instances the unions and workers' committees work closely together, they are not bound to do so and management has frequently been able to drive a wedge between the two structures." (Richer, 1992:67). Workers' committees often deprived the unions of control of communication channels, which further weakened the role of unions as the collective voice of workers. This has proven "enormously frustrating to workers with interests different from the mainstream, which they can no longer communicate to management. ... Members of workers' committees ... run the risk of being categorised as *vatenges* (sell-outs) as a consequence of performing the communications role that they are required by the state to fulfil." (Cheater, 1992b:76-7). For example, in signing retrenchment applications, workers' committee members risked being seen as aligning themselves with management against workers. This impeded the functioning of the committee's role as representing the workers.

Regrettably, there is no research available linking the effectiveness of workers' committees and relations with trade unions to firm performance in the 1980s. As shown in Chapter 6, by the mid-1990s union members were often more than proportionately represented on workers' committees, although there was considerable variation from plant to plant.

None of the legislative changes were brought about in response to direct pressure from organised labour. The post-independence wildcat strikes were not 'organised', although these clearly influenced government policy. There was substantial growth in employment during

the 1980s in the public service. However, in this sector government ensured that workers' representative organisations were limited to passive staff associations, which were not allowed to join the ZCTU.

Many managers and foremen argued that in the absence of other avenues for conflict resolution, slowing down the work rate became a major method of worker resistance during the mid-1980s (Wood, 1988:301).

4.6. TECHNOLOGY AND SKILLS

Skills, training, access to technology, innovation and management techniques are potential explanations of sectoral and firm level performance.

In this section, we establish that, since the mid-1970s, technological innovation in Zimbabwe has mostly been limited to efforts to improve capital intensity. After independence, there was also a shift away from limited in-firm apprenticeships to higher level training and greater emphasis on certification. By 1990, these changes had not led to any apparent significant improvements in the quality of training or the availability of skills. Finally, a number of firms embarked on organisational improvements. These took place in the context of a bureaucratisation of management systems and procedures following independence.

4.6.1 Skills and Innovation

Various factors have been offered as an explanation of the manufacturing downturn in the mid-1970s. Technologically feasible activities for import substitution were exhausted. Further progress required importation of both foreign technology and equipment, better product design and higher technical standards (World Bank, 1990a:13). In this view, local technological capabilities were adequate to operate, maintain and service most plant in use locally, but were insufficient to further develop the sector.

The UDI government had not attempted to circumvent these problems, for example, by creating local training and research and development institutions. It preferred to rely on the

continuing immigration of skilled workers, training abroad and importing technology. This saved the considerable investment costs which would have been required to establish local training facilities (Raftopoulos, 1986:275-283). It was also easier to preserve skilled occupations for whites, if there was little local opportunity for blacks to be trained. By the mid-1970s immigration had slowed, however, and emigration accelerated. This was recognised in the findings of the 1974 Commission of Inquiry into Further Education in the Technical and Commercial Fields (1974:2). The Commission's recommendations to increase the number of blacks taken into skilled training had only limited impact. The percentage of white apprentices in mechanical and automotive trades did not fall below 60 percent between 1975 and 1980 (National Manpower Survey 1981, Vol.1, Table 3.4.1).

The slump in technological change after the mid-1970s was also due to the shortage of foreign exchange (UNIDO, 1993:68). The collapse in domestic demand after 1974 and the availability of excess capacity (see Section 4.3.3 above) led to revenues which were inadequate to cover depreciation and maintenance costs, let alone the funding of innovative activities. The relatively low foreign exchange requirements for organisational innovation or improvements in management techniques made such changes more attractive. Yet, "where machinery is very outdated, investments to upgrade capital equipment may be required simultaneously with changing organisational practices." (Posthuma, 1993:10).

The availability of skills declined following independence. In fields relevant to the engineering sector, between 1979 and 1982, CSO recorded 6 406 professional and technician level emigrants and only 4 535 immigrants.⁵⁵ At production worker level, net emigration was more significant at 6 196 emigrants and 2 264 immigrants. The net flow only reversed after 1985. It is likely these figures for emigrants were considerably underestimated, as departure forms are less likely to have been correctly completed.

By the late 1980s, these skills had not been fully replaced (World Bank, 1990a:17). Zimbabwean firms were establishing a pattern of relatively low skill endowments. In the mid-1980s, out of a sample of 144 firms, it was found that graduate engineers comprised only 5 percent of the total number of technical personnel, including engineers, technicians and

⁵⁵ See *Monthly Migration and Tourist Statistics*, (various)

other skilled workers. The skilled and technician categories comprised 65 percent and 30 percent respectively (Ndlela, 1986:145).⁵⁶

The World Bank's late-1980s survey found that firms grew through copying and reverse engineering (1990a:17). Linked to the shortage of higher level skills, few instances of product development, or research departments were identified. Adoption of new technology was rare. The "formal sector engineering industries of Zimbabwe ... employ technologies that can be described as the elements of the first industrial revolution. Almost all the machine tools and manufacturing processes are still under direct human control. ... The second industrial revolution with its CNC machine tools and CAD/CAM methods is only just making its appearance." (Zwizwai and Powell, 1991:26).

In its frequent rejection of import applications for more modern technology, government demonstrated a concern that more capital-intensive, labour-saving innovations, available in the advanced capitalist countries were inappropriate to Zimbabwe's post-independence circumstances (World Bank, 1990a:17).⁵⁷ Yet, existing capitalists sought to adopt capital intensive technologies. This was justified by reference to the difficulties in enforcing labour discipline under the restrictive labour legislation.⁵⁸

During UDI and under the cover of sanctions, the government worked closely with South African and other foreign companies and a host of middle-men. This enabled local firms to undertake indirect negotiations to obtain equipment and to break or be immune to licensing agreements. After independence, South Africa became hostile. Foreign capitalists were put off by the new government's socialist rhetoric (Herbst, 1990). Little effort was made to improve the institutional framework to enhance local innovation. The controlled price system, operating on a cost plus basis, also reduced the incentive to innovate to reduce costs.

⁵⁶ Unfortunately, there are no comparable figures available pre-independence. Comparisons with the mid-1990s are made in Chapter 5.

⁵⁷ Alternatively, a concern to save foreign exchange where possible.

⁵⁸ See notes from various firm interviews that reinforced this point.

4.6.2 Training

The paucity of local training and technical colleges prior to independence was complemented by a belief that white skills were indispensable. The launch of a National Manpower Survey in 1981, as the basis for future manpower development, was consequently seen by many whites as a threat to their security (Raftopoulos, 1986:284). This survey highlighted shortages in many skill areas, including all the main professional and technical engineering disciplines. This implied a need for more deliberate and targeted strategies to ensure the development of local technological capability.

A number of new initiatives were started after independence, including the establishment of Vocational Training Centres and the upgrading of former 'semi-skilled' workers through the use of trade testing. The 1984 Manpower Development Act initiated a one per cent training levy on payroll to fund approved public and in-firm training activities.

Yet, while efforts have been made to expand training capacity, successes have been limited. By the late 1980s, training institutions were still not performing well. There was a shortage of qualified instructors and equipment (World Bank, 1990a:19), explained in part by the relatively low levels of public sector salaries.⁵⁹ The needs of the engineering sector were not rated as a significant priority. The enrolment of science/technical graduates at the University changed little as a proportion of total students, although the absolute numbers of scientific and technical enrolments at the University increased dramatically (see Table 4.5).

There were particular problems with the centralisation of recruitment and administration of the apprentice system under government control (Raftopoulos, 1994:4-8). Government's adversarial attitude towards private firms contributed to a decline in the annual apprentice intake from 2 044 in 1981 to a low of 933 by 1988. In the early 1980s government also introduced another scheme for training skilled workers, known as 'institutional training'. Students participated in a college based programme, with industrial attachments, leading to a national diploma. Whereas apprentices spent about a quarter of their four years training in college, these trainees spent two of three years in college. There were problems associated

⁵⁹ See World Bank, *Zimbabwe: Manpower Development and Training Project - Staff Appraisal Report*, (1987b:9-11) for an outline of the capacity problems, and see the analysis in Chapter 7.

with the acceptability of such personnel to employers, who often made them complete the last year of an apprenticeship as well.⁶⁰ During the 1980s, therefore, there was a relative shift to government administered training and higher level skills training, and thus greater emphasis on certification.

Table 4.5 - Technical Training: Student Enrolments

	1965 ^a	1975 ^b	1980 ^b	1985 ^c	1990 ^d
Apprentice Intake					
Mechanical	145	451	511	582	555
percent of total	35.8	38.2	35.7	45.3	36.0
Automotive	86	258	328	245	339
percent of total	21.2	21.8	22.9	19.1	22.0
Technical College Enrolment*					
Mechanical Engineering			1020	1362	886
percent of total enrolment			13.6	9.5	9.4
Automotive			264	444	720
percent of total enrolment			3.5	3.1	7.6
Total Technical Training			4097	4278	3592
percent of total enrolment			54.5	29.7	38.0
University of Zimbabwe					
Engineering			117	280	693
percent of total enrolment			5.8	6.2	7.7
Total Science/Technical			672	1437	3375
percent of total enrolment			33.2	32.1	37.5

* Technical College figures under 1980 are for 1981

Sources: a. *Annual Report: Apprenticeship Training and Skilled Manpower and Development Authority 1969*;

b. Ministry of Manpower, Planning and Development, *National Manpower Survey, 1981*; c. *Annual Review of Manpower 1986*;

d. GoZ, *Second Five Year National Development Plan 1991-95*

The pre-independence lack of certification of qualifications had tied worker loyalty to individual firms. The post-independence changes led to greater emphasis on paper qualifications rather than in-house experience, which led to loss of job status for many long-serving workers. This promoted disaffection among workers, and contributed to declining productivity and increased labour mobility (Cheater, 1992b: 72).

⁶⁰ See notes from interviews with a number of firm respondents

The difficulties in the national training system should be seen against the background of a failure to develop a national industrial and technology strategy (see Section 4.3 and Chapter 7). Too much emphasis was placed on trying to adjust the supply of labour, without paying sufficient attention to the structures of production. Training was not adequately tied to areas where labour demand was likely to increase and production did not change in response to changes in the available pools of local skills (Raftopoulos, 1986).

4.6.3 Management Issues and Techniques

A significant difference in the ratio of direct (skilled, semi-skilled, unskilled) to indirect (managerial and technical) labour has been found between Zimbabwe (at 13.6), India (1.63) and the UK (2.0-2.5) (World Bank, 1990:20). The World Bank has suggested technical reasons for this, including the relative simplicity of processes in Zimbabwe, the lack of local R&D and greater use of automation among the technical cadres. A better explanation, based on the historical context, might be the reluctance of local capitalists to see control over their capital challenged or diluted, or their surplus exploitation threatened as their firms expanded. With managerial salaries at many multiples of those of production workers', it may also seem quite rational to keep the management complement down to a minimal level.

"Old and outdated forms of organisation" limited the impact of what little new capital equipment there was, on output and growth (Kaplinsky, 1994: 159). In the late 1980s, a small number of firms began to adopt new (Japanese) management techniques (NMTs), as a way of innovating with limited foreign exchange. The changes included a number of common features, such as "just-in-time inventory reduction, quality-at-source ... preventative maintenance, quality control circles, and single unit flow" (Posthuma, 1995:104).⁶¹ Some firm level case studies reveal varying degrees of operational success, including faster production response to changing market conditions and stock holding and work-in-progress reduced to more efficient levels (Kaplinsky, 1994 and Posthuma, 1993 and 1995).

⁶¹ A number of other organisational changes are typically combined with all or some of these, as discussed further in Chapter 6. See also the discussion of flexible production, NMTs and recent organisational change theory in Chapter 2.

The determinants of success, as analysed by Kaplinsky, include commitment by senior management to the introduction of the NMTs and management allowing workers to have a greater involvement in production decisions. Management are supposed to look upon workers as "a resource which needs to be augmented" (1994:290), and put major emphasis on training and skills development. Generally, however, Zimbabwean management maintained the rigid hierarchical organisational frameworks already established. It is suggested that the changes were seen as leading to one-off performance gains, rather than the first step on a road to the adoption of a more participative and open management style (ibid.).

Management under UDI was very hierarchical and racially based, which leant itself to very strict control by white supervisors and foremen over black unskilled labour (Wield, 1982: 172). After independence, the new labour and manpower development legislation signalled a shift from arbitrary to increasingly bureaucratic management procedures and practices (Shadur, 1994:220 and Cheater, 1992b:71). By the early 1990s, workers were typically still not involved in any technical or managerial decision-making and a "climate of mistrust exist[ed] between management and labour" (Posthuma, 1993:13). While Posthuma and Kaplinsky ascribe this mostly to racism, Cheater suggests that "[i]f anything, new black managers have tended to widen the already large gap between management and workers in ways that the newly introduced workers' committees have been powerless to control ... " (1992b:69). These managers tend to get caught in a paradox. They want to respond to pleas for paternalism from their subordinates emphasising the manager's obligations to *black* workers. Having developed as managers under the new system, however, they tend to be more bureaucratic in exercising their managerial functions than white settler managers. This has led to the growth of patron-client relations alongside a "heightening of workers' perceptions of their conflicts with management as a class of patrons who today treat workers as bureaucratized objects ..." (ibid.:80).

4.7 CONCLUSIONS

The literature seems to have a number of deficiencies in explaining variations over time in the performance of manufacturing and the engineering sector, in particular. There are few explanations provided of firm level differences.

Some explanations are easily rejected. These include neoclassical interpretations highlighting the importance of relative price changes and the negative impact of market imperfections, especially those resulting from aspects of state intervention.

Others, which are not much developed in the literature, emerge as requiring further analysis. For example, the focus on changes in management techniques parallels the focus on changes in industrial organisation in other parts of the world. Such changes were relayed into Zimbabwe by large management consulting firms. Kaplinsky (1994) and Posthuma (1995) correctly point out the diversity of firm responses, but then attempt to simplify the explanations for this unevenness through the selective use of anecdotes. While this thesis uses similar case study techniques, theoretical constructs such as agency, linkage and structure provide a more solid base for the analysis. In Chapter 6, therefore, the changing behaviour of organised labour; and, firm level relations between capitalists, management and workers are examined.

5. THE ESAP YEARS

5.1 INTRODUCTION

This chapter briefly outlines developments in Zimbabwean manufacturing after the introduction of ESAP in 1990. It draws on official published data and that collected and published by other authors. Among the many reports, papers and articles providing analyses relating to ESAP, this section focuses on those that deal specifically with manufacturing.

After an overview of the analyses to date of industrial performance and development under ESAP, the evolution of the economic policy shifts is outlined. This is followed by an overview of some of the major changes at macro and sectoral level, with particular emphasis on investment, exports and productivity. Changes in the treatment of workers are highlighted in terms of changes in wages and employment. This is followed by a brief look at changes in the numbers in higher education and training. The conclusion elicits some of the major questions that cannot be answered from the data presented, which provide a link to the empirical work discussed in Chapters 6 and 7.

At the time of writing the CSO Census of Industrial Production data was only available up to 1993/94, so the longer term implications of the changes after 1990 are difficult to ascertain. Other data indicators were available for periods after 1993, as seen below. With the CSO still in the process of revising its deflators to adjust to a 1990 price base, there is much doubt concerning the validity of the GDP related data. Draft figures made available by the CSO show considerable changes from the published data. The CSO has not published a detailed breakdown of investment after 1991.

5.2 OVERVIEW OF ANALYSES TO DATE OF INDUSTRY UNDER ESAP

Since the start of the programme, a range of research has been conducted to understand the impact of ESAP. As with the more general literature on structural adjustment (see Chapter 2), most of the work falls into one of two camps. Those sympathetic to the design of the programmes have attempted to find positive consequences. Those critical of the conceptual

framework behind the programme's design typically attempt to highlight the social and economic costs of the programme's implementation.

5.2.1 Orthodox Interpretations

The World Bank itself has conducted a number of review exercises (World Bank, 1995a, 1995b and 1995c). In addition, RPED (Regional Programme for Enterprise Development) surveys for Zimbabwe have been used to produce a number of reports, most of which are more relevant to the firm level analysis in Chapter 6 (Gunning, 1994, Gunning and Mumbengegwi, 1995 and Free University/University of Zimbabwe, 1995). More in-depth analysis of the RPED data has also been conducted on a number of specific subjects. These include technology (Teitel and Thoumi, 1994 and Biggs, et. al., 1995), finance (Fafchamps, et. al., 1995 and Fafchamps, 1996) and the treatment of workers (Velenchik, 1996 and 1997 and Verner, 1997).

Some research conducted outside the World Bank, but by economists broadly sympathetic to the Bank's approach, has focussed on the manufacturing sector.¹ Other research has taken a macro focus.² There has also been research focussing specifically on the trade related aspects of the policy changes (GATT, 1995).

5.2.2 Critical Views

The main policy-oriented critical work has been undertaken by the ZCTU, which eventually produced the *Beyond ESAP* report in 1996. In addition, a number of more academic papers have been written directly addressing ESAP's impact on industry.³ Others have dealt with industry, labour markets and employment (Sachikonye, 1995, Kanyenze, 1996, Weeks and Mosley, 1996 and Knight, 1997). There have also been a number of papers examining aspects of ESAP less specifically related to industry (Davies, 1996 and Bond, 1996).

¹ See Ratnayake (1994) prepared for the Ministry of Finance, and Braunerhjelm and Fors (1994) prepared for the CZI.

² For example, see ILO (1993), and Gustafsson, Durevall and Mlambo (1995), which was prepared for SIDA.

³ See Robinson (1993), Latsch and Robinson (1995) and Carmody (1997) - the last of which focusses on textile, garment and footwear industries.

5.3 OUTLINE OF THE ESAP PROGRAMME

This section briefly introduces the major policy changes introduced after 1990. These are described in more detail in a number of texts.⁴ The implications of the ESAP changes for industrial policy are discussed in more detail in Chapter 7.

The policy matrices laid out in various ESAP project documents and Policy Framework Papers prepared by the government, "in conjunction with" the IMF and World Bank, established the conditionality for programme compliance. The World Bank's Operations Evaluation Department's *Performance Audit Report* addresses some of the tensions arising from the need for government to "own" and to determine the pace and manner of implementation of the programme (1995c:31-32). The Bank accepts some responsibility for poor implementation and the negative impacts on the poor and the vulnerable. However, it mostly attributes these to a lack of attention to detail in the setting of conditionality and in the relative emphasis on different programme components. No problems are linked to potential inadequacies of the overall approach.

It was clear that the manufacturing sector did not merit special attention in the programme, as the policy matrices contained no supporting sectoral initiatives for that sector.⁵ Instead "[i]ndustry in general is expected to develop an outward-looking culture, which is responsible to the stimulus of competition to improve efficiency and productivity. This should be coupled with the development of innovative entrepreneurial, managerial and above all technical skills which can drive the sector on to a sustainable growth path" (World Bank, 1991:50). In other words, industry was expected to respond automatically, in a positive manner, to the programme's changes in price, exchange and trade regimes. There were also changes to investment, financial and labour market regulations, which were to assist in economic restructuring. The last of these is examined in Chapter 7.

⁴ For example, see World Bank (1995), Chapter 1 and Sachikonye (1995).

⁵ For example, see World Bank (1991 and 1995c), and GoZ (1994a:14-18).

Domestic price controls were mostly eliminated early in the programme's implementation. On the exchange side, the first significant devaluation took place in 1991. There was a downward slide in the value of the Zimbabwe dollar relative to the world's major currencies for much of the rest of the 1990s. It is suggested, however, that this was continually being eroded by inflation (World Bank, 1995b:15). The expected export-encouraging impact of the changes in relative price incentives is therefore questioned.

The devaluations were accompanied by reductions in the level of exchange control. The Export Retention Scheme (ERS) was introduced in 1990 and was gradually extended. The consequent increase in imported final manufactured goods served to increase competition (World Bank, 1995b:18). It also created new divisions of interest between exporting firms, which had enhanced access to foreign exchange, and non-exporting firms, which did not, and yet were being hit by increased competition (Sachikonye, 1995:55). In January 1994, current account transactions were substantially liberalised through the introduction of foreign currency accounts in place of the ERS. Exporters were able to retain up to 60 percent of their export proceeds. This was ahead of the original target of 35 percent of earnings under the ERS by December 1993. The amount retained was increased to 100 percent by July of the same year.

On the import side, a gradually expanding system of open general import licenses (OGIL) was introduced from October 1990 onwards. This was also abolished in January 1994, ahead of the original 1995 target, leaving only a small negative list of prohibited imports. This list was also gradually further eroded.

In 1995, industry started to lobby for revisions to the tariff structure which had replaced the quotas. Many instances were revealed of finished goods facing lower import tariffs than their inputs, which were negatively affecting local manufacturers trying to compete with those imports. This resulted in several manufacturers becoming traders.⁶ A revised tariff structure was finally approved in 1997.

⁶ See ZCTU, (1996:49) and several 'firm' interview notes, November 1995. There was limited evidence of this trend in the ES Census, however.

Financial liberalisation saw real interest rates rise from negative in 1990 to significantly positive (up to approximately 10 percent) by 1992/93, at which levels they remained for the period covered by this study.

Overall, the pace of change was very uneven, with the further rapid trade liberalisation in January 1994, accompanied by the abolition of the 9 percent export subsidy. It is unclear exactly why the trade liberalisation programme was accelerated to such an extent at that time. The speeding up severely reduced the time anticipated to be allowed for domestic producers to adapt to the changes. One view was that the government lacked administrative capacity to monitor and implement a steadily evolving programme. Another was that a major change was required to signal a more serious commitment to change. A third was that the government was falling behind on other elements of the programme, especially the reduction of the fiscal deficit and privatisation. The accelerated changes were seen as a way of keeping the donors supporting the programme. Whatever the intention, the suddenness of the shifts left "the business sector in a state of shock" (World Bank, 1995b:101).

The cutting of public expenditure proved to be very complex. It implied the reduction of support for government's constituencies. With insufficient support, some in government feared that ZANU-PF would not be able to maintain itself in power, or to continue with the implementation of ESAP (Sachikonye, 1995:54)⁷. Despite the lack of 'sufficient' cuts to meet ESAP targets, various cuts were made, which had a greatly damaging impact on the capacity of the public service (see Chapter 7).

The first phase of ESAP formally came to an end during 1996. By that time, government was heavily embroiled in consultations and planning exercises with a view to approving and implementing a redesigned programme, provisionally known as Zimprest (Zimbabwe Programme for Economic and Social Transformation).⁸

⁷ For example, in 1997, promises of direct disbursements to the veterans of the independence war, as well as finance for land reform, were once again threatening the credibility of Zimbabwe's budgetary process.

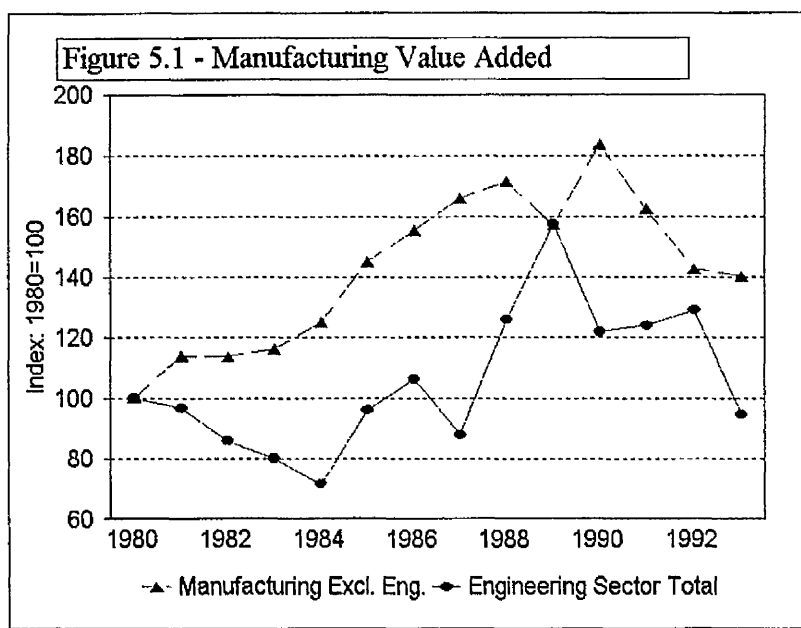
⁸ At the time of writing, the document was still to be finally approved.

5.4 POST-ESAP ECONOMIC PERFORMANCE

This section follows the same format as in Chapter 4 above. The severe drought of 1992 reduced domestic demand, as food prices soared. It is difficult to separate the effects of the drought on GDP from those of other policy changes, although this has been attempted by some analysts.

5.4.1 Macro and Sectoral Performance

Between 1990 and 1993, the absolute contribution to GDP of both engineering and the rest of manufacturing declined (see Figure 5.1). The manufacturing sector's share of GDP fell



Source: CSO, *Census of Industrial Production and Quarterly Digest of Statistics* (various)

by 5 percent of GDP between 1990 and 1995.⁹ The World Bank ascribed this decline to the impact of the drought on domestic demand, the introduction of tighter monetary conditions as part of the policy shifts, and the drop in the value of the local currency (1995a:2).

The most significant decreases in value added within the engineering sector were seen in fabricated metal products (see Figure 5.4 below) and non-electrical machinery, which fell by 14.8 per cent and 21.6 per cent per annum respectively. Overall, value added in the

⁹ Derived from unofficial CSO figures from 1996 using 1990 as base year. Note that Figure 5.3 shows different percentages, as it was derived from the old time series, which used 1980 as the base year.

engineering sector declined to below its level in 1980.

A longer term picture can be seen from the index of production between 1980 and 1996.¹⁰

This clearly shows the negative turnaround in the fortunes of both the metals and metal products part of the engineering sector, as well as manufacturing as a whole after 1991 (see Table 5.1 and Figure 5.2). It also demonstrates that some sectors were able to perform against the overall trend, most notably wood and furniture and transport equipment. Thus, it is difficult to argue that ESAP has led to comprehensive de-industrialisation. Certainly there was a serious collapse of the clothing and textiles industries, with estimates of over 20 percent of firms closing (see ZCTU, 1996 and Carmody, 1997). Yet, this does not seem to have extended to other sectors. More specific indicators of sectoral performance are required.

Table 5.1 - Relative Production Changes in Manufacturing Sectors: 1990-96

Sector	Average Annual Change in Production Volume Index (%)
Wood & Furniture	10.1
Transport Equipment	5.3
Non-metallic Minerals	2.0
Paper, Printing, Paper Products	1.9
Drink & Tobacco	0.1
Foodstuffs	-2.0
Chemicals	-2.4
Metals and Metal Products	-3.6
Clothing & Footwear	-5.7
Textiles	-15.3
<i>Mining</i>	2.4

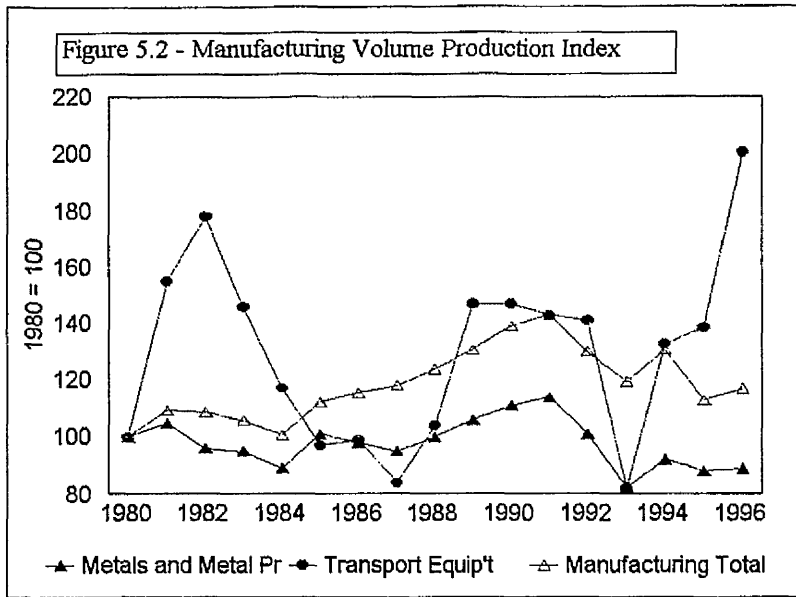
Source: CSO, *Quarterly Digest of Statistics*, March 1997

Note: Mining is included for comparative purposes

The sectors which grew faster were not those which would have been expected to grow faster following the shifts in relative input prices. Orthodox theory would have predicted that the more labour intensive sectors, including foodstuffs and clothing, might have benefited from the policy changes. Relative prices moved against the non-tradeable goods sectors. Yet,

¹⁰ Value added data were not available for the longer time period.

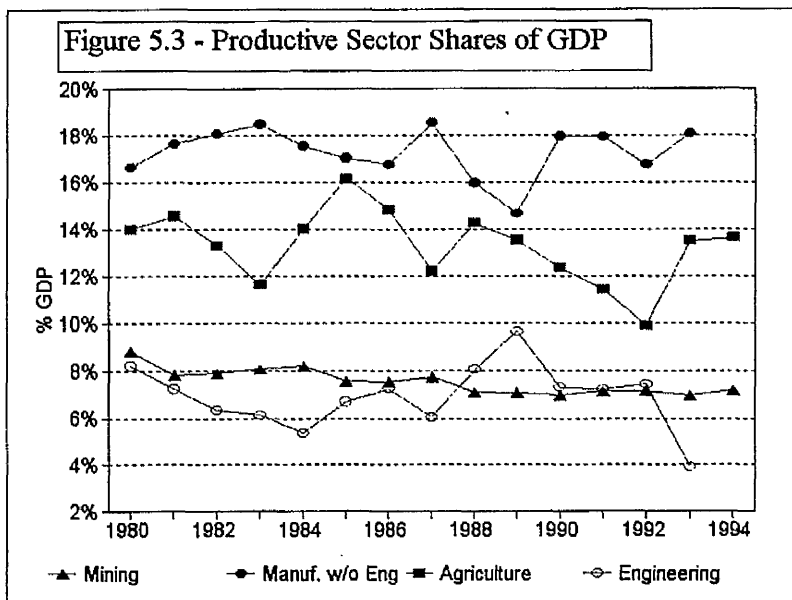
such sectors outperformed the tradeable sectors, including manufacturing (ZCTU, 1996:47).



Source: CSO, *Quarterly Digest of Statistics* (various)

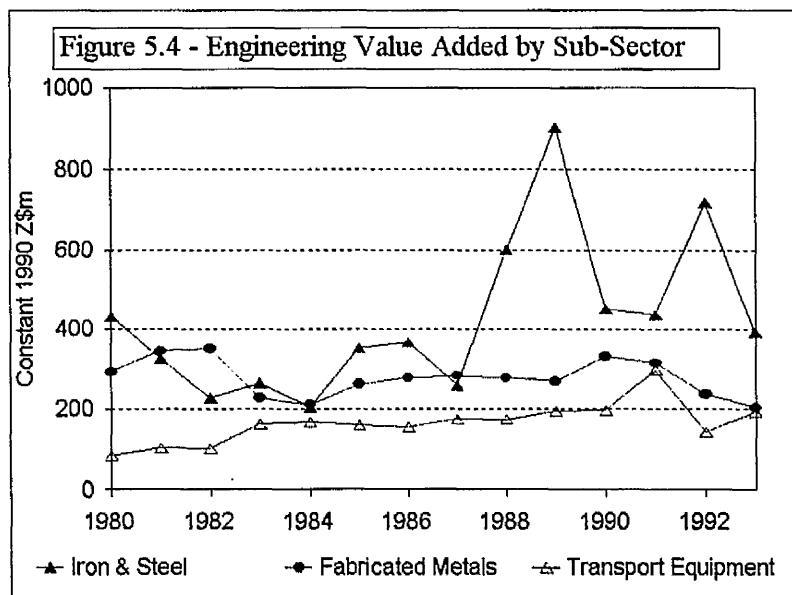
Nor can increasing import competition following the liberalisation account for the observed changes in performance. For example, in 1992 wood and furniture had an import penetration ratio of 3 percent, against transport equipment with a ratio of 54 percent (Braunerhjelm and Fors, 1994:63). There is no direct correlation between import intensity and sectoral performance (although admittedly these are crude aggregate measures).

The transport equipment sub-sector is a volatile sector, which is often dependent on single large orders of railway equipment. From 1992 onwards, the bulk of engineering firms in the metals and metal products sector were producing at lower volumes than at independence.



Source: CSO *Census of Industrial Production* and *Quarterly Digest of Statistics* (various)

Overall, there was a relative shift in favour of the primary sectors (see Figure 5.3), with agriculture recovering swiftly after the 1992 drought. Following the recovery in agriculture; food products and agro-processing grew more rapidly than other manufactured sub-sectors after 1992, only to slump again during the drought in 1995.

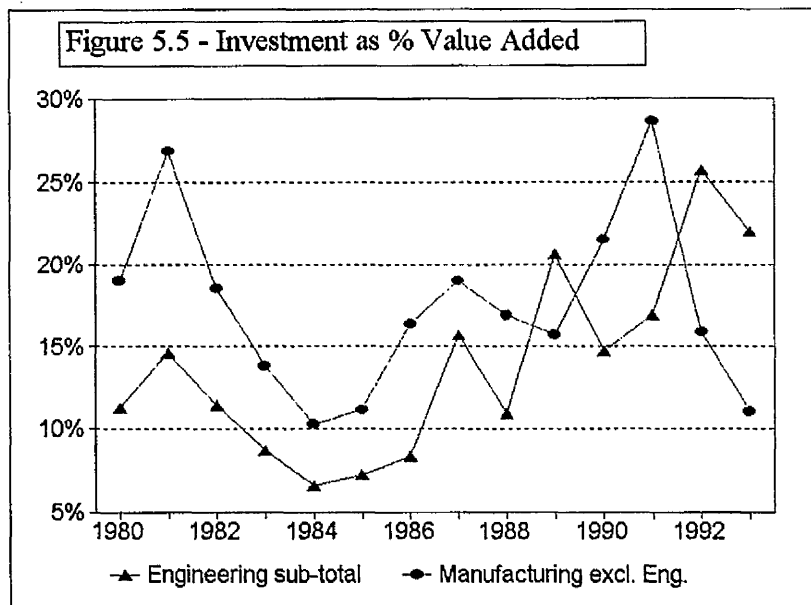


Source: UNIDO, *Industrial Statistics* and CSO, *Quarterly Digest of Statistics* (various)

The changing value added in the major engineering sub-sectors is shown in Figure 5.4. This shows the continuing influence of the rapid changes in the base metals sub-sector on the sector as a whole, as well as the above-mentioned decline in the fabricated metal products sector. It is not clear whether these large changes reflect volume changes, or are explained by fluctuating metal prices; or, indeed reveal statistical problems relating to the way the data is captured and recorded.

5.4.2 Investment

With the increase in production in the late 1980s, there was a short-lived increase in investment flows, as seen in Figure 5.5. These were further facilitated by an easing of access to foreign exchange after 1990. Aggregate figures from the CSO are still only available until 1991. The figures do not yet allow for an analysis of investment post-ESAP.



Source: CSO, *Census of Industrial Production and Quarterly Digest of Statistics* (various)

Disaggregating the engineering investment surge to 1992, reveals that much of the increase was accounted for by the basic metals sub-sector (especially by the ongoing refurbishment and modernisation of ZISCO). Investment in the fabricated metals and machinery sub-sectors increased at a lower rate. After 1992, with the introduction of high positive real interest rates, investment became problematic again despite the greater availability of foreign exchange (see Chapter 6).

The World Bank suggested that the backlog and catch-up nature of much of the late 1980s/early 1990s investment meant that it was aimed at the domestic market and, therefore, was unlikely to generate "commensurate output and employment increases" (1995a:120). While the latter did turn out to be the case, it is difficult to verify the imputed cause thereof.

5.4.3 Exports

Total merchandise exports increased on average by 7 percent per annum in US\$ terms from 1991 to 1995. The economy remains heavily reliant on basic commodity exports. Nonetheless, tobacco, gold, ferrochrome, nickel and cotton lint declined from around 60 percent of total exports up to 1991 to closer to 50 percent in the subsequent years. They were replaced by manufactured exports, which grew at twice the total export average, by 14 percent per annum, from 1991 to 1995. In the 1990s, the fastest growing sub-sectors included foodstuffs and wood and furniture products (see Table 5.2). These segments grew from 11% of manufactured exports to 25% between 1990 and 1995.

Table 5.2 - Relative Changes in Manufacturing Sector Exports: 1991-95

Sector	Average annual change in exports in current US\$ (%)	Average ratio of value added to gross output 1990-93 (%)
Wood and Furniture	45.3	51.1
Paper, Printing, Paper Products	43.4	54.5
Foodstuffs	33.7	33.4
Drink and Tobacco	16.6	77.0
Chemicals	15.2	22.1
<i>Ferrochrome</i>	14.8	..
Non-metallic minerals	11.5	26.5
Clothing and Footwear	10.9	48.2
Textiles	6.1	44.5
Transport Equipment	5.3	43.9
Metals and Metal Products	-2.1	49.5
<i>Cotton Lint</i>	-8.0	..

Source: CSO, *Quarterly Digest of Statistics and Census of Industrial Production* (various)

Note: The values added in ferrochrome and cotton lint are included in the values added in metals and metal products and textiles respectively, but are not included in export figures for those sectors.

As with the relative growth in production volumes noted above, the sub-sectoral pattern of export growth cannot easily be explained in terms of orthodox theory. The fastest growing

sectors were among those with the highest proportions of value added to output.

Despite the impressive growth in some sectors, overall manufacturing growth was not export-led after 1990. Export-led growth characterised the foodstuffs, clothing and wood and furniture sectors, where the post-1991 exports to gross output ratios were substantially above historical trends (see Table 5.3). However, each sector's situation was different, with textiles experiencing declining export ratios largely due to a sharp drought-related fall in the exports of cotton lint. Export rates in the engineering sector displayed little significant variation overall during the period (1991-1995), although there was a relative shift within the sector (see below).

Table 5.3 - Manufacturing Sector Exports/Gross Output: 1986-93

Sector	1986	1990	1993
Foodstuffs	9.8	5.7	12.3
Drink and Tobacco	0.4	1.3	4.2
Textiles	34.9	23.8	17.8
Clothing and Footwear	11.1	15.5	23.7
Wood and Furniture	5.9	7.3	21.9
Paper, Printing, Paper Products	2.3	1.9	2.3
Chemicals	3.7	4.0	7.5
Non-metallic minerals	1.6	2.1	2.1
Basic Metals	50.1	48.7	47.8
Fabricated Metals and Machinery	18.4	8.2	15.0
Transport Equipment	9.8	8.3	4.6

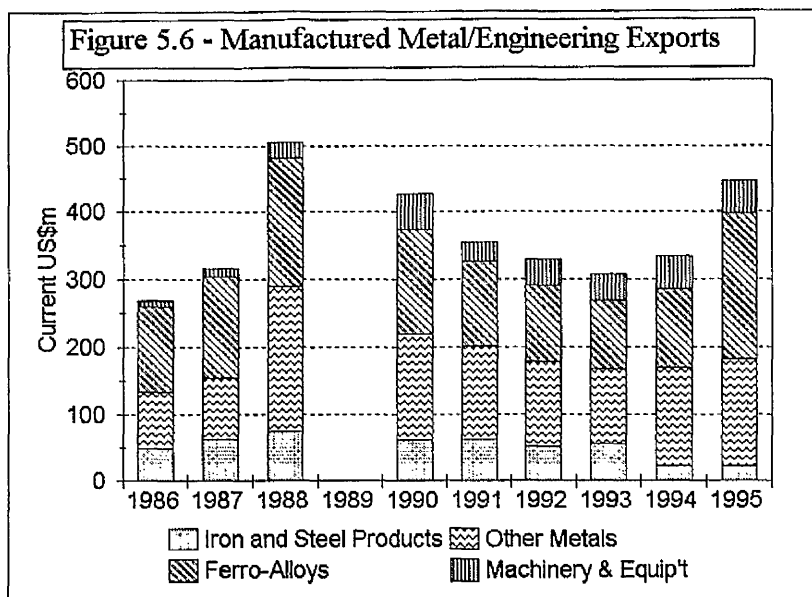
Source: CSO, *Quarterly Digest of Statistics and Census of Industrial Production* (various)

Note: The figures for textiles include cotton lint and for basic metals include ferrochrome, as there are no separate output figures for these sectors

In early 1994, an outcry from manufacturers, led by the CZI, followed the rapid removal of export incentives, both the 9 percent subsidy and the ERS premium (see *Southern African Economist*, 1994:9). A number of the most dynamic sectors saw a downturn in exports in 1995. These included textiles, garments, beverages, wood and paper products and transport equipment. It is not clear why these sectors were hardest hit. Overall, the most export-oriented sectors in 1990 were not those which subsequently grew fastest. The reasons for sectoral differentiation appear to be peculiar to individual sectors, rather than attributable to

any conventional orthodox explanation.

The export performance of the engineering sector was the weakest in Zimbabwean manufacturing. The discontinuation of production by ZISCO's main blast furnace after 1992,



Source: CSO, *Quarterly Digest of Statistics* (various)
Note: no information was published for exports in 1989.

accounts for the rapid decline in exports of iron and steel products. Most of the residual ZISCO production was sold on the more remunerative domestic market. Engineering segments, excluding ferrochrome, fell from 20 percent of total manufactured exports in 1990 to 10 percent in 1995.

Despite the efficiency of the engineering sector, assessed in the 1980s studies (see Section 4.1.3), the sector as a whole did not move directly into export markets to any great extent. This is in spite of a significant number of firms in the sector having been previously engaged in exporting activities (see Chapter 6). In its 1995 *Country Economic Memorandum*, the World Bank offered the following explanation:

"[I]t is not clear whether the firms in Zimbabwe will be capable of expanding, as it requires exporting and maintaining their shares in the domestic market in the face of increasing import competition. Although Zimbabwean firms do have significant capabilities and are not found to be inefficient, the data suggested there is a lack of technological skills vis-a-vis other countries."

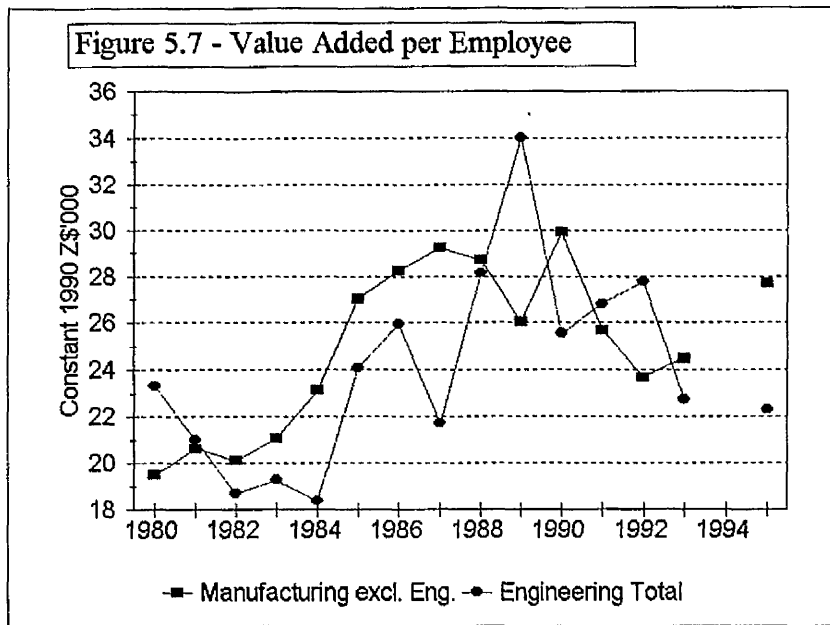
Thus, when efficiency is measured by DRCs (see above), it is acknowledged that *actually* this does not guarantee anything, if there is a relative deficit of technological skills. The static orthodox concept of efficiency is acknowledged, therefore, to have no practical relevance for policy making.

The lack of export success is also excused by suggesting that Zimbabwean firms have been exporting "small quantities of products designed for the domestic market to nearby markets with similar tastes and requirements, but this type of exporting rarely represents a promising basis for significant export expansion" (World Bank, 1995a:133). Product design is thus also acknowledged as important. This is another production feature, alongside technology, which implies that static efficiency concepts have limited practical application. Elsewhere, the Bank confirms this, suggesting that "the technologically and institutionally more efficient firms, and those that have geared up for export, have been better off" (1995c:26). The latter rather bald statement is followed up and contextualised in Chapter 6.

A large number of ongoing constraints to exporting are outlined by the World Bank (1995b, Chapter 5). The constraints include severe delays in receiving duty drawback rebates; difficulties with registering for and using the Inward Processing Rebate; poor product and service quality of many inputs; and, an "ill-developed and confusing" export financing system. These problems are likely to affect sectors which use imported inputs more intensively, which might partly explain the relatively poor performance of the engineering sector. They cannot explain, however, the varying performance of firms within the same sectors. Reasons for the variety of individual firm export experiences are explored in Chapter 6.

5.4.4 Productivity

For both manufacturing as a whole, and for the engineering sector in particular, productivity (in value terms) declined between 1990 and 1993 (see Figure 5.7). For manufacturing as a



Source: UNIDO, *Industrial Statistics* and CSO, *Quarterly Digest of Statistics* (various)

whole it declined further to 1995.¹¹ On the basis of sectoral data, it is difficult to establish whether this can be explained by declining margins, as a result of firms having to be more price competitive; by an increase in shop floor resistance to real wage decreases (see below); or, by the substitution of workers for capital, following the shift in relative prices.¹² The latter seems most unlikely, given the fall in employment (see below) and rise in investment during this period. These results caused the ZCTU to conclude that there had been little change in production techniques towards more labour intensity (1996:51).

This topic is examined in more detail at the individual firm level in Chapter 6.

¹¹ This calculation is based on draft CSO figures, 1996.

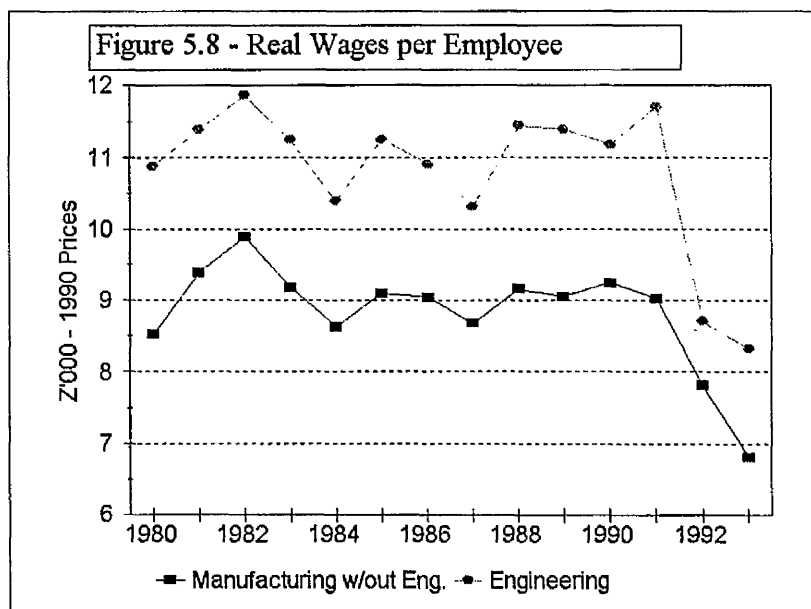
¹² The latter was suggested by the World Bank, (1995b:16).

5.5 TREATMENT OF WORKERS

5.5.1 Wages

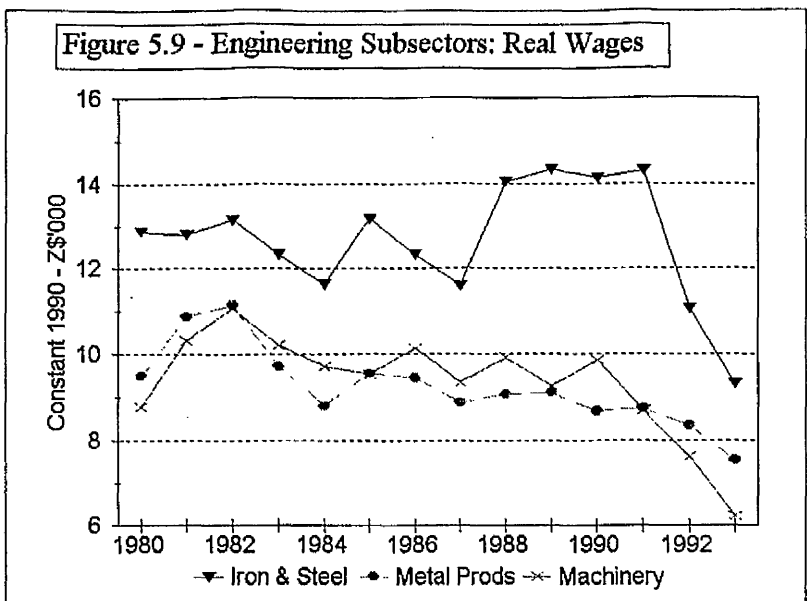
Alongside the decline in labour productivity, real consumption wages declined sharply following the introduction of ESAP (see Figure 5.8). The causality here is not clear, which again implies a need for firm level analysis. Between 1991 and 1993 real manufacturing and engineering wages fell by 13 percent and 20 percent per annum respectively. By 1993, real wages were substantially below their levels at independence. This was a direct result of wage settlements failing to keep up with the rapid acceleration in inflation, as well as reductions in labour demand associated with the 1992 drought. To a lesser extent it was also due to inflationary pressures associated with financial liberalisation (World Bank, 1995b:16). Possible reasons for the difficulty in maintaining real wage levels are explored in Chapters 6 and 7.

At the sub-sectoral level, the pattern is similar. ZISCO, the state-linked iron and steel producer, had been instrumental in maintaining higher real wages in the base metals sector



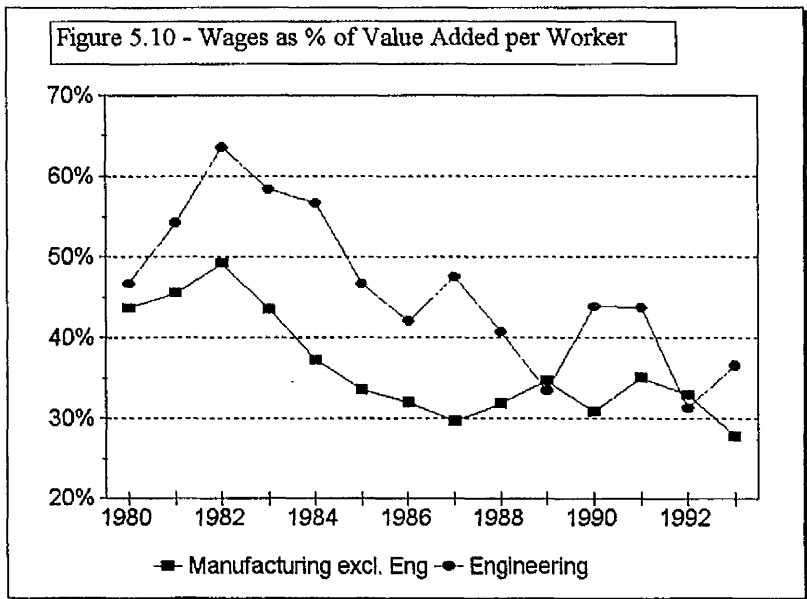
Source: CSO, *Census of Industrial Production and Quarterly Digest of Statistics* (various)

during the 1980s. Under ESAP, however, real wages fell rapidly, by 23 percent per annum, in the iron and steel sub-sector as well (see Figure 5.9).

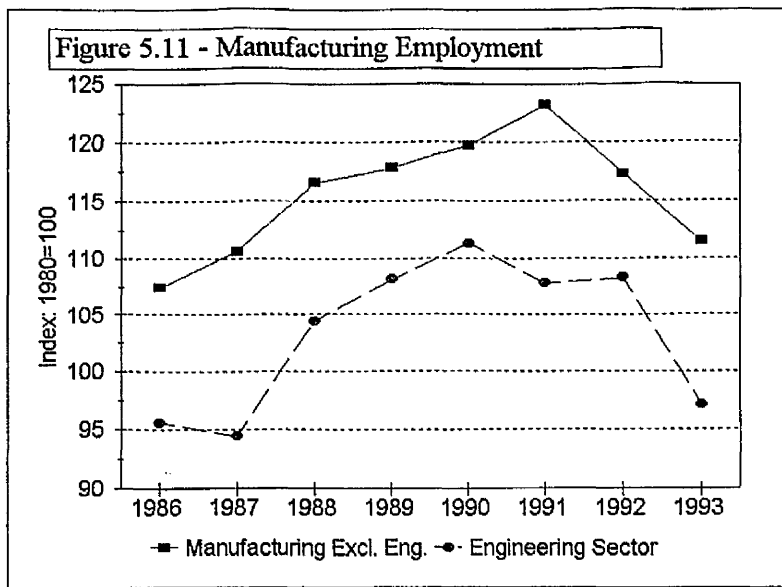


Source: UNIDO, *Industrial Statistics* and CSO, *Quarterly Digest of Statistics* (various)

These rapid falls in real wages outstripped the reductions in value added per worker, highlighted above. As a result, there was a continuation of the trend established in the 1980s, with a further reduction in the percentage of value added going to workers in wages (see Figure 5.10).



Source: CSO, *Census of Industrial Production* and *Quarterly Digest of Statistics* (various)



Source: CSO, *Census of Industrial Production and Quarterly Digest of Statistics* (various)

5.5.2 Employment

These results demonstrate that there has been considerable real wage flexibility in Zimbabwe. These declines in real wages should, in terms of orthodox theory, have created opportunities for firms to increase employment. However, there had been very limited numerical employment flexibility in the 1980s, which established a basic pattern for the 1990s.¹³

As the rest of the economy slowed down in the early 1990s, there were reductions in manufacturing employment (see Figure 5.11). Between 1991 and 1993, nearly 19 000 or 9.6 percent of jobs in manufacturing were lost. A further net 3 000 jobs had been lost in manufacturing by mid-1996, despite a brief recorded recovery during 1994.¹⁴ The increased investment in the sector during the late 1980s had had little impact on increasing the rate of job creation. This tends to confirm the impression created in Chapter 4 that this investment was mostly in more capital intensive technologies.

Manufacturing employment as a proportion of total recorded employment suffered as well, falling from around 16 percent in 1990 to approximately 14 percent in 1995. This low level

¹³ See discussion on the impact of labour market regulation during the 1980s in Chapter 4.

¹⁴ This is according to figures from CSO, *Quarterly Digest of Statistics* (March, 1997), which are not directly comparable with the *Census of Industrial Production* data used in Figure 5.11.

had not been seen since the mid-1970s. In engineering, employment fell across all sectors. Some firms started to retrench, while others were forced into liquidation (see Chapter 6).

In the metal products sector, by the end of 1995, the Ministry of Labour recorded that 124 firms had retrenched a total of 6 094 workers since the beginning of 1991.¹⁵ This figure was the highest for any sub-sector in manufacturing. It comprised 47 percent of those retrenched in the manufacturing sector and 23 percent of retrenches across all sectors of the economy. The reasons for retrenchment were recorded as a "lack of orders" in virtually every case in the engineering sector.¹⁶ Given that in 1990 the engineering sector was responsible for only 4 percent of total formal employment and 23 percent of that in the manufacturing sector, it is clear that the industry was particularly hard hit.

The quality of these employment statistics is highly questionable. For example, NEWU had figures of only 2 586 retrenched in the engineering sector, by mid-1996, although it appears their figures omitted many of the firm closures (only two were recorded) and the large number retrenched by ZISCO. The Ministry of Labour figures do not include central government retrenchments. These amounted to a net reduction of 17 000 (5.7 percent) between 1991 and 1996.¹⁷ The data are also assumed to have under-recorded changes in a number of other sectors.

5.6. SKILLS

In the discussion of industry in the orthodox publications reviewing the post-1990 changes, little attention was paid to changes in education or skill status after 1990.

The World Bank's *Country Economic Memorandum*, for example, focusses on changes to education. It highlights the steady fall in education's share of GDP, from over 9 percent in 1988/89 to some 7 percent in 1993/94, and the consequences for primary and secondary

¹⁵ See unpublished data from Ministry of Labour, 1996.

¹⁶ See unpublished data from the National Engineering Workers Union, 1996.

¹⁷ Calculation based on Quarterly Digest of Statistics, March 1997.

education (1995a:50-51). It pays minimal attention to the consequences for training and other forms of skills development.

Despite reductions in general education expenditure, the numbers engaged in tertiary and vocational training continued to increase after 1990, although doubts were expressed by a number of industrialists about the quality of those being trained.¹⁸ The numbers completing engineering apprenticeships increased significantly during the 1990s (see Table 5.4).

Table 5.4 - Apprenticeships Completed in Selected Years: 1980-95

	1980	1985	1990	1991	1992	1993	1994	1995
Automotive	245	160	239	205	152	394	339	495
Mechanical	309	416	474	388	328	570	431	723
Electrical	189	114	274	183	209	259	286	358
Total Engineering	743	690	987	776	689	1223	1056	1576
Total Apprentices	965	890	1239	986	947	1538	1252	2170
Engineering as % Total	77.0%	77.5%	79.7%	78.7%	72.8%	79.5%	84.3%	72.6%

Source: Registrar of Apprenticeships - unpublished data

In addition, the number of candidates being trade tested annually in the three main engineering disciplines increased from 1 450 in 1991 to 3 269 in 1995. It was estimated that this reduced the backlog of those requesting examinations, although it was not clear by how much.¹⁹

Table 5.5 - Summary Enrolments of All Technical Colleges 1990s

Course Title	1990	1991	1992	1993	1994	1995
Automotive Engineering	710	778	885	1503	2011	1662
Electrical Engineering	703	563	965	1080	1219	1098
Mechanical Engineering	757	1174	1250	1536	1426	1588
Engineering Total	2170	2515	3100	4119	4656	4348
All Colleges Total	9048	8056	10859	12565	13219	13390
Engineering as % Total	24.0	31.2	28.5	32.8	35.2	32.5

Source: *Statistics on Tertiary Education*, Ministry of Higher Education (various)

¹⁸ For example, see interviews dated 23 March, 1996 and 15 May, 1996.

¹⁹ See interview with Registrar of Skilled Workers, 18 June 1996.

Technical college enrolments during the 1990s swelled to a peak in 1994 (see Table 5.5). The following year was the first in which engineering enrolments declined since the 1980s.

It is clear that there was a substantial increase in the supply of trained, skilled engineering workers, during a period when demand for such workers slackened off considerably.

5.7 CONCLUSION: CONTRASTING VIEWS OF ESAP

This overview has focussed on the broad macro and sectoral facts of industrial change during the 1990s. There are two sets of views on whether the shifts seen within industry since 1990 constitute positive changes. This section presents a brief contrast of these views. Some of the shortcomings of these assessments are addressed, in order to justify the research focus in the subsequent chapters.

The strongest supply response to liberalisation should, according to conventional theory, have come from the sectors in which Zimbabwe has comparative advantage. Braunerhjelm and Fors argue that, in the short to medium term, comparative advantage in manufacturing is likely to be concentrated in semi-skilled goods and production using agro-inputs (1994:10). This chapter has shown that this does not explain the complex nature of the year-on-year changes in the relative shares of manufacturing sub-sectors.

Manufacturing exports grew more rapidly than production, during the 1990s, in accordance with ESAP's intentions. It is not clear that this was necessarily due to more than the lifting of the foreign exchange constraint, however. This enabled more inputs and equipment to be procured. Again, the complex nature of Zimbabwe's manufacturing sector means that orthodox interpretations are at best only a part of the explanation for differences in relative rates of export and production growth.

Typically, the World Bank's interpretations focus on the implementation of the ESAP Programme. For example, excessive fiscal deficits 'crowd out' a surge in private investment. There is an underlying assumption that, despite the poor record to date, the Programme would have achieved the results of the original plan, if implemented more effectively.

For Braunerhjelm and Fors, the Programme itself requires some minor modifications to the price-based incentive structure to improve its efficiency. For example, they suggest introducing tax incentives for exporters and working towards a uniform tariff rate on intermediate and finished goods (1994:79). These recommendations are supplemented by supply side measures such as better promotion of foreign direct investment and higher tax breaks to encourage in-firm training. They are not, however, part of a comprehensive re-think of the goals of ESAP, or the types of policy measures which might help Zimbabwe achieve them.

The second type of assessment of the impact of ESAP on industrial performance is well represented by the ZCTU, which emphasises that 'getting the prices right' has been shown to be insufficient to generate enhanced growth and industrial competitiveness. It takes a broadly structuralist line in arguing for the provision of additional institutional support (1996:55-58). This might include: controlling monopoly practices; implementing efforts to boost productivity; more active public assistance for export marketing development; improving support for technology acquisition and capacity building; and enhancing access to skills required for industrial development.

The ZCTU also stresses the importance of an active promotion of skills development, linked to an employment intensive growth strategy (1996:73-78). In the latter, however, the ZCTU reverts to an approach used by the World Bank. The promotion of small and medium enterprises (SMEs) is seen as a major avenue for the creation of new jobs.²⁰ It certainly is not clear that a strategy aimed at increasing the supply of skilled labour allied to a focus on increasing employment demand among SMEs is coherent or likely to succeed. SMEs typically engage in relatively low skill occupations and have few spare resources to spend on training, or skills maintenance.

The overall emphasis in the ZCTU's approach is a pot pourri of what appear to be 'better' strategies than are currently in place, in terms of their perceived potential to address structural problems. As with many structuralist-type analyses, there is little emphasis, however, on what should motivate the government to adopt such policies. Without being developed

²⁰ See, for example, a comment on employment creation in World Bank (1995c:11).

within such an understanding, and without a planned lobbying campaign, the recommendations have relatively little prospect of successful implementation. For this, a better understanding is required of agency and the changes in social relations which have taken place since the introduction of ESAP.

Thus, overall, none of the analyses of the consequences of ESAP offers a wholly satisfactory explanation. Both the neo-classical inspired approach of the World Bank and the structuralist based account of the ZCTU are at best partial in their understanding. Neither satisfactorily deals with the variety of experiences that have occurred. This becomes clearer in light of the detailed micro institutional analysis of Chapter 6 below. Chapter 7 extends the discussion on the evolving political economy of industrial policy making in Zimbabwe.

6. PERFORMANCE AND BEHAVIOUR OF THE ENGINEERING SECTOR

6.1 INTRODUCTION

Despite the poor performance of the engineering sector as a whole since 1990, not all firms have been performing badly. Some dynamic firms have changed many aspects of their strategy, products and behaviour. Such changes have included those in organisation, technology, skills and aspects of worker treatment. Other firms have been virtually static.

This chapter seeks to understand determinants of these changes, as well as the influences causing some firms to be more dynamic than others. This is achieved through detailed examination of original data, covering the ES Census and case study firms. Specifically, there is an examination of how various characteristics of the case study firms influence their ability to adapt strategy and behaviour, following changes in the macro-economic environment. This is followed by an investigation into the differential impact of these changes on firm performance. Particular attention is devoted to the institutional legacies and inheritances, which may either constrain or encourage the firms' efforts to change and adapt.

The overall conclusion is that the differential behaviour across firms reveals a lack of validity of the behavioural assumptions underlying the economic policy shifts contained in ESAP towards a more market-oriented and price-determined system. Thus, no positive outcome was ever likely to follow the adoption of ESAP.

The research findings indicate that a number of historical and structural influences on firms are of key importance in explaining their response to economic change. These include particular aspects of Zimbabwe's political/economic history, which have led to the majority of white-owned firms behaving as isolated islands of enterprise, for the most part poorly integrated with each other, or with potentially supportive organisations. They, thus, find it difficult to source or accept support for technological, organisational and skills change. The firms which are best able to circumvent these constraints are those with 'internal' support mechanisms. These mechanisms appear to be most effective in firms that are part of TNC-

owned groups.

Other institutional legacies include: a lack of past investment, which (apart from financial constraints not examined here) limits the ability to undertake significant new investments; a dearth of established marketing functions within the firms, which inhibits their entry into exporting; patterns of agency internal to the firms, which inhibit change, including management with competing and more lucrative interests and senior staff lacking training and experience in managing change, which add up to a lack of enthusiasm and commitment to change; poor internal respect and trust relations between management and workers; and, poorly paid and unmotivated workers who are unresponsive to efforts to change organisational techniques and skills.

The Chapter is structured as follows. In the first section, an overview of the recent history and characteristics of the sector as a whole, as derived from the census data, is presented. Differential performance characteristics are analysed according to size, age, export orientation, and ownership. This section also indicates the intra-sectoral differentiation captured by the clustering exercise.

The second section introduces the case study firms and characterises them. Major changes in trading environments are highlighted. Changes in firm strategy, and investment are examined. In the following three sections, behavioural changes are reviewed. These are examined under the following headings: change in production technology and organisation, skills development and capital innovation, and changes in the treatment of workers. In each of these sections, the attempt is to identify the key facilitators of and constraints to change. The impact of the changes that have taken place on firm performance is also appraised.

The concluding section draws together key findings.

6.2 SECTORAL OVERVIEW

In this section, the object is to show how firm behaviour and performance have varied across the engineering sector. This is illustrated by using the ES Census data. Firms are

differentiated according to structural characteristics such as size, age, whether exporting or not, and ownership. The Census firms are also grouped according to changes in products, organisation, technology and skills, where relevant, under the subsequent sections of this chapter. The final subsection contains information illustrating how these groupings compare with the firm clusters developed from the ES Census (see Chapter 3).

Overall, it is apparent that the era when the firm was founded, as well as the ownership structure of the firm, appear to be of major importance in explaining firm behaviour. A number of firms commenced operations after 1990 and are much faster growing in sales, employment and productivity than any others. The pre-UDI firms are the largest and have the highest productivity. Size is also important, however, as the largest firms are also the biggest exporters. Moreover, the situation is complicated. Firms do not neatly fall into one or other grouping. This complexity is part of the reason for adopting a case study approach and exploring particular firms in great detail in the following sections of this chapter.

6.2.1 Firm Size

Size is clearly of some importance in relation to a number of performance criteria. The correlation between size of employment and firm age in 1995 was 0.48, and the correlation between size and percentage of output exported in 1995 was 0.54.

As can be seen in Table 6.1., the largest firms tend to be older (13 of the 18 largest firms, for which information was available, commenced operations prior to UDI), export more (all the largest firms export), and have the highest manufacturing sales per employee. They have, however, shown the slowest growth rate in terms of employment, as well as showing declines on average in sales and sales per employee. These declines are not as great as those exhibited by the medium sized firms.

At the other end of the scale, the smallest firms are youngest (nearly half of this group started operations after 1990) and the fastest growing, both in terms of employment, sales and productivity, but are least likely to export (only four of the 23 firms in this group exported in 1995).

Table 6.1. - Average Firm Performance by Size Group

Firm Size (1995)	< 20 workers	20-99	100-250	> 250
Number of Firms	24	68	23	21
Firm Age (years)	10.5 (10.1)	22.2 (17.7)	29.1 (14.8)	40.4 (20.9)
Exports as percent of sales	1.6 (4.1)	5.6 (11.3)	11.2 (12.0)	17.3 (17.5)
Annual % growth in employment 1991/2-94/5	12.9 (23.6)	5.4 (17.8)	2.3 (12.7)	0.2 (8.0)
Annual % growth in total sales 1991/2-94/5	24.2 (57.8)	-4.9 (22.8)	-4.0 (23.4)	-2.9 (30.5)
Ann. % gr. in total sales/worker 1991/2-94/5	11.6 (36.4)	-10.3 (20.7)	-6.7 (20.7)	-3.7 (21.3)
Manuf. sales/worker 1994/95 (Z\$'000)	34.5 (38.9)	38.0 (60.0)	34.2 (46.6)	39.2 (24.3)
Total sales/worker 1994/95 (Z\$'000)	41.7 (38.3)	56.3 (95.0)	40.7 (50.7)	41.8 (23.7)

Note: Standard deviations in brackets

Source: ES Census survey data

Overall, the two medium sized groupings reveal the weakest performance. The larger medium sized firms had the worst productivity in 1994/95, while the smaller medium sized firms experienced the most rapid decline in productivity. The weaker case study firms fall into the latter group.

The performance differences are not statistically significant, however, except for the productivity changes between the smallest firms and the others. The data suggest that there may be sales and productivity differences related to size. These are difficult to establish, given the crude nature of the data available from the census survey. Furthermore, the products produced by these firms range across a variety of engineering sub-sectors, which may vary significantly in their tradeability, as well as in other characteristics, their local content for example.

6.2.2 Firm Age

The performance differentiation between firm age cohorts appears to be greater than between firm size groupings. The exception to this is trade orientation, with the largest firms exporting considerably more than the oldest. This implies that the historical influences are

likely to be of greater significance than size differences in explaining many aspects of firm behaviour.¹ This endorses the need for the historical approach to analysis which has been adopted in this research.

The age periodisation is split into pre-UDI firms; those formed during the post-UDI era; those which commenced during the first independent decade; and, those formed post-ESAP. Some of the major results can be seen in Table 6.2. Sharp differences appear in the growth patterns between the more mature firms and those still in their initial growth phase. The youngest firms are performing considerably better than the smallest firms in Table 6.1, which implies that the ongoing establishment of new firms across all sizes may be more important than the promotion of SMEs per se. Looking over a longer period from 1980 to 1993 Risseuw found that there was no clear inverse relationship between age and growth (1994:40). Thus, it appears that ESAP gave greater opportunity for new firms to establish and develop dynamism.

Table 6.2 - Average Firm Performance by Age Group

Year of establishment	pre-1965	1965-1979	1980-1990	post-1990
Number of Firms	41	30	35	21
Exports as % of sales	10.2 (11.9)	10.4 (14.9)	4.7 (11.5)	2.3 (4.4)
Employment (1995)	214 (204)	126 (111)	61 (82)	31 (32)
Annual % growth in employment 1991/2-94/5	-1.1 (7.7)	-0.9 (9.6)	8.5 (16.3)	37.7 (24.6)
Annual % growth in total sales 1991/2-94/5	-9.3 (12.5)	-9.8 (11.4)	5.8 (33.1)	46.5 (75.8)
Ann. % growth in manufactured sales/worker 1991/2-94/5	-8.3 (12.8)	-7.7 (17.8)	-4.7 (29.9)	9.9 (82.9)
Total sales/worker 1994/95 (Z\$'000)	74.2 (84.2)	28.4 (17.5)	52.9 (100.8)	29.8 (24.1)

Note: Standard deviations in brackets
Source: ES Census Survey data

Among the pre-independence firms, there are no significant differences between pre- and post-UDI firms according to many of the growth criteria. Both groups experienced poor sales

¹ These results are similar to those emerging from the first wave of the RPED survey (see Risseuw, 1994:36-41).

and productivity growth in the 1990s (worse than for any grouping on the basis of size). Yet in terms of productivity and export levels, these are highest for the longest established firms. One might be tempted to conclude that this was indicative of learning that takes place over time, yet the firms established during the closed-economy UDI era appear relatively weak in terms of a number of criteria. This would tend to suggest that learning does not automatically accumulate over time. The firms established pre-UDI had the opportunity of serving a larger market in their early years, while the UDI firms were set up to service the domestic market only.

6.2.3 Trade Orientation

Exporting firms (59 percent of the firms) are older and larger than the non-exporters. There appears to be an association between non-exporters and those firms whose sales and employment are growing faster. While this seems to fly directly in the face of the orthodox expectations underlying the economic policy shifts, it is explained by the size and age factors. Nonetheless, the appearance of such a pattern does raise serious questions about the impact of the policy shifts.

While the productivity changes are not significantly different between the exporting and non-exporting groups, the exporters do have significantly higher manufacturing sales per worker. Again, this appears to be associated with the age of these firms. Trade orientation *per se* does not appear to play an important role in explaining performance differences.

6.2.4 Ownership

Here we examine differences between the 23 percent of the firms which are foreign owned or affiliated (through joint ventures), and the domestically owned firms, whether 'white' or 'indigenous', public or private.

There are insignificant differences between the firms in terms of employment size or exporting percentages (although 74 percent of foreign owned firms export, against 54 percent of the domestic firms).

The foreign owned firms are distinctly older, with just over 50 percent of the 41 firms established prior to UDI remaining under foreign ownership, while only two of 30 firms established during the UDI era were foreign owned at the time of the survey. Similarly, only seven of 55 firms established post-independence were foreign owned (see Chapter 4 for more information on changing patterns of foreign investment).

Given the importance of the age factor, foreign owned firms exhibit larger average declines in sales and productivity, although the differences are not significant. As with the exporters, the productivity levels of foreign firms are significantly higher than the local firms. The differential is greater, however, between foreign and domestic firms (366 percent higher for total sales per employee), than between exporting firms and non-exporters (148 percent higher). This indicates that in explaining performance differences, the ownership issue is more important than the question of trade orientation. As noted above, it is also a critical part of the firm age factor.

6.2.5 Cluster Differentiation

The cluster analysis of the census firms facilitated the development of a preliminary 'typology' of firm types. This exercise provided a more profound view of the sector than the rather crude picture presented in the previous subsection. The principal defining characteristics of each cluster are presented in Table 6.3. The case study firms, the objects of investigation and analysis in the rest of this chapter, were drawn from these clusters and their code names are also presented.²

² The high/low indicators are relative to the sample, and are not meant to imply any comparison with such indicators internationally. See Chapter 3 for methodological background on the use of clustering techniques.

Table 6.3 - Typology of Metal Engineering Firms: 1991-1995

Cluster	Number of firms	Major Characteristics	Firm Code(s)
1	19	Young, small, rapid sales and employment growth, higher skills	YOUNGCO (A)
2	16	Small-medium, exporters, improving production processes, high unionisation	SOLIDCO (B)
3	25	Small-medium, few changes and stagnant performance	STATICCO (C)
4	18	Medium, higher productivity growth due to contracting workforce, many foreign owned, higher skills	SANDCO (D) and RENEWCO (E)
5	30	Larger, higher sales growth, exporters, most established pre-UDI, high technology	QUALCO (F) and DELAYCO (G)
6	28	Medium-large, most exporting, low skills, most established post-UDI, all changing production organisation	PLASTICO (H) and PUSHCO (J)
7	2	Large, high skill and technology and faster growth.	MONOPCO (K)

Source: ES Census survey data

The clustering was made on the basis of relatively limited data about each of the firms. The characterisations are generalised. The differences between the clusters are not entirely clear cut. Not every firm fits the cluster description exactly or falls neatly into only one cluster. A number of firms sit close to boundaries between clusters. Nonetheless, the selection of one or two of the more dynamic, yet at the same time 'typical', firms from each cluster provided an opportunity to investigate whether there was any basis for attempting to disaggregate the sector in this manner at all. It was also possible to evaluate whether this approach offered a fresh analytical tool for attempting to understand sectoral performance or not.

6.3 THE CASE STUDY FIRMS: STRATEGY AND INVESTMENT

In this section, the ten case study firms are fitted into a typology on the basis of ownership and dynamism. Differences in their strategy and investment patterns are linked to particular

institutional characteristics of the firms. These in turn are linked to differences in dynamism and performance. This analysis assists in explaining both behavioural characteristics common to all firms, as well as differential characteristics between firms.

Initially, the case study firms will be examined to establish their basic structural characteristics. Then differential changes in their trading environment are highlighted, as well as their strategic responses to these changes. Alterations to their product mix are examined. A similar assessment is made of whether and how firms are making efforts to expand exports.

The indication of a changed strategy by a firm respondent does not indicate that the strategy was implemented, nor that it was done well. One indicator of implementation might be new capital investment. There may have been constraints on investment, however, for example from the financial sector. In examining the outcomes of the strategic changes, insight is obtained into the relative effectiveness of the adoption of the various strategies across the firms.

Finally, an attempt is made to link these changes to changes in performance.

6.3.1 Characteristics of the Case Study Firms

The available range of financial performance data varies considerably across the firms. Two firms (SOLIDCO and PUSHCO) provided virtually no financial data, and there is scant data for a third (YOUNGCO), a relatively new firm. Another firm (STATICCO) only provided information for the years since 1991/92. In the other cases, financial information was available for selected years, going back to around 1980/81. The only problem then, is with the reliability, as alluded to in Chapter 3.

All firms are undertaking full sequence manufacturing activities. The first three firms in Table 6.1 produce mainly for final consumers. Their products are not used in further industrial processing. The other firms manufacture goods which in many cases are used in other manufacturing activities, or in other productive sectors, such as mining and agriculture.

Many of the products, fall into the three-digit ISIC category, 381, fabricated metal products. The categorisations in Table 6.4 capture the main products, but in some cases the firms also produce other products. For example, the foundry also manufactures some specialised machinery. The CSO's recording of manufacturing enterprises across sub-sectors of engineering is shown in Table 6.5. Six of the case study firms, unsurprisingly, fall within the sub-sector with the largest share of the sector's firms.

Table 6.5 - Distribution of Firms Across the Engineering Sector

Sub sector (ISIC code)	Number of Firms (1991)	Share
Iron and steel (371)	20	5.4%
Non-ferrous metals (372)	6	1.6%
Fabricated metal products (381)	177	48.1%
Machinery, excluding electrical (382)	45	12.2%
Electrical machinery (383)	63	17.1%
Transport equipment (384)	57	15.5%

Source: UNIDO *Industrial Statistics* 1996

6.3.2 Changes in the domestic marketplace

This subsection examines the changes in the domestic markets for the case study firms' products. The firms' consideration of the most important factors in their ability to compete, are linked to shifts in their corporate strategy.

Following the shifts in economic policy, and especially from 1994 onwards, firms have been facing increased competition and tighter margins in local markets, although the extent of change varies between products. Changes in competitiveness are not simply a result of changes in relative prices. The firms' survival and future well-being will be determined by how quickly and profoundly they can adapt to the new environment, and how well they overcome constraints along the way.

6.3.2.1 Market Structure

For many products, new market entrants appeared following the rapid liberalisation. Competition from imports also increased for some products. Yet, some firms also exited from product markets. Many case study firms remain dominant in the local markets for one or more of their products. While new foreign products are available on a price competitive basis, this has not proved decisive in changing local consumption patterns. Nonetheless, market conditions have shifted sufficiently so that no firm can hope to be successful merely by continuing with earlier strategies.

Most products produced by the case study firms have been produced in fairly concentrated markets, typical in Zimbabwe.³ In 1991/92, two of the case study firms were monopoly suppliers locally. All products were produced in markets with fewer than seven leading competitors.⁴ 65 percent of the firms' products were produced in industries with four or fewer competitors. This demonstrates a more concentrated pattern of production, than that presented by the Zimbabwe RPED results, where it was found that only 16 of 37 metals sector firms reported that they had five competitors or fewer (Chigumira and Maphosa, 1995: 51).⁵

Between 1991/92 and 1996, the case study firms reported that, on average, 2.8 firms had entered and 2.6 firms had exited the market for each product group. Overall, there was no net change.⁶ The RPED study data revealed that 31 percent of new entrants were reported as local or TNC importers. The rest were local micro or 'informal' sector enterprises. A number of the exiting firms had been long established. They were reported as exiting due either to collapse, or to a reorientation of their product mix. A further dimension to the exits was the taking over of competing or complementary firms. Two case study firms had taken over other local firms since ESAP had begun.

Only four case study firms reported increased foreign competition after 1993.⁷ This was mostly among the more technologically sophisticated products. Another firm (SANDCO) was about to commence production of a new product line of motor vehicle components in 1992, but opted not to due to the opening up of the economy (see 6.3.4 below). While new or existing firms were being established as agents for the imported products, those with

³ See discussions in Chapter 4, Zimbabwe Monopolies Commission (1992) and Bennell (1992).

⁴ There are more competitors in the market for structural steel, but this is also a rather diversified market, so in the niche occupied by YOUNGCO, a similar pattern of 'effective' competition is likely to have prevailed.

⁵ For manufacturing in total the percentage responding similarly was less at 35%. The difference between this research and the RPED is partly accounted for by the notion used in this research of 'principal' or 'effective' competitors. Not all firms producing in the same four digit product category are necessarily competing directly, so fewer competitors are noted.

⁶ The RPED Survey had reported a net increase for all except the smallest firms during 1994/95 (Free University/University of Zimbabwe, 1995:26).

⁷ In 1993, the RPED first wave results showed a reported lack of foreign competition in any sector, except textiles (Bade and Chifamba, 1994:182).

already established local production or maintenance capacity found themselves in the best position to develop those agencies. They were able to offer local after-sales support and technical advice to customers. There was a strong impression that local customers had grown wary of 'briefcase businessmen' offering low prices for imported products, with no after-sales back-up.

Half the case study firms reported experiencing increased competition from new local small scale producers. Often these were being set up by ex-employees of the larger and longer established companies. A number of respondents complained that new micro firms were taking market share by unrealistic pricing. These firms then found they could not deliver products at the quoted prices and either came to the more established companies to assist them, or simply disappeared. At the same time, they were forcing the existing companies to reduce their margins to continue acquiring business.

Information is available on market share at the time of the field research, but not how this share has changed over the past few years. Most firms estimated serving between 25 percent and 100 percent of the local market for their products and at least one of their product lines had captured over 50 percent of the domestic market. While the impact of increasing competition may have reduced existing firms' market share and be influencing them to adapt to new trading conditions, it has yet to erode the commanding positions occupied by many in the domestic market.

6.3.2.2 Competitiveness Factors

Respondents considered product price and quality as equally important in enabling firms to compete in the local marketplace. These factors were followed by dependability of the product, which is closely related to quality and timeliness of delivery.⁸

⁸ Firms were asked to rate the importance of different competitiveness factors in their ability to compete in the domestic market on a five point scale and also to rank the same criteria in order of importance. Interestingly it seems the order in which the factors were set down influenced the first scoring, as the scoring under the second listing was a little different. The rankings of the factors on both exercises were similar, however, with only a few items swapping places. Interestingly, the international exercise showed very significant differences as a result of the above two exercises, with the factors asked about later in the sequence scoring worse on the priority ranking exercise - see Section 6.4.2 below.

It would have been useful to be able to establish how these considerations had changed in the recent past, but this was not possible. Anecdotally, it was reported that during the closed economy era, almost everything that could be produced could be sold.⁹ Alternative sources of availability were severely limited by the tacit competition policy followed, as a result of foreign exchange shortages (see Chapter 4). For at least one firm's products, there was an informal domestic cartel in operation, which shared out local demand among the main local producers and maintained prices at a profitable level. Capacity to respond to orders, determined by access to foreign exchange and appropriate inputs, must have been the principal factor enabling firms to compete at that stage.

Following the opening up of the economy, there was an early influx of cheap imports, especially from China. For a while, price alone became the principle factor. However, it was soon realised by many local consumers that the quality of the Chinese imports, in particular, was not always very high. Quality soon became more important.

6.3.3 Strategic shifts

6.3.3.1 Responses to changes in domestic trading conditions

This subsection focuses on how management went about trying to re-orient their firms to face the changed market circumstances outlined above. Shifts in strategy were not simply a response to changes in the nature of competition in the market. Other changes, such as the decline in domestic demand following the severe drought of 1992 and the change in real interest rates as a result of financial sector reforms, also influenced firm strategy. Strategic changes mostly dealt with price (cost) and other market related changes. The implementation of new strategies may also have lead to changes in firm behaviour, i.e. some combination of organisational, technological or human-related change. Such changes will be assessed in the remaining sections of this chapter.

The limited nature of change in many firms is consistent with the theoretical framework, which implies that 'institutional legacies' tend to constrain firms' adaption of their behaviour

⁹ See interviews with various firms, November-December, 1995.

to changes in incentives (see Chapter 2).

While the strategic shifts are explored in more depth below, at an overall level, it is possible to summarise the changes, as laid out in Table 6.6.

Table 6.6 - Summary of Shifts in Firm Strategy

Shifts in Strategy	No. of Firms	Common Causes
I. Increasing marketing focus in local marketplace	8	Response to declining demand and/or increasing competition
II. Changes in management systems and practices/organisation of production	6	Attempts to increase flexibility in face of rapid changes in the market and to improve efficiency to enable pricing, etc. to be more competitive
III. Cost control/reduction push	5	Concern over declining profitability in face of declining demand/increasing competition
IV. Quality improvement drive	4	Links to strategy I. above, but where quality singled out as necessary to restore/enhance demand
V. Export Drive	3	To increase capacity utilisation in the face of declining domestic market and to take advantage of new opportunities

Source: Survey data

That the domestic market was a motivator for strategic change becomes clearer when we examine the factors considered by firms in adopting their new strategies. In a prioritisation exercise, customers' requirements emerged as the most important consideration, followed by competitors' actions. Costs, with their implicit linkage to prices and profitability, only appeared as a third consideration. With a limited focus on export promotion, external market characteristics were the least important, being ranked below the firms' structural characteristics.

Three broader groups of firms emerge from this analysis. Group I comprises dynamic, *growing* firms, which have attempted to find ways to continue expanding. Both Group II firms are change-oriented, size-conscious, Trans National Corporation (TNC) owned, *repositioning* firms. They seem most concerned with increasing profitability through higher productivity, using a variety of ways of achieving this, including down-sizing. Firms from both Group I and Group II adopted a fairly aggressive, dynamic response to the perception of increased competition. The firms in Group III are growth and performance constrained *stunted* firms. They have downsized and adopted a conservative approach to future

development.

These groups can be seen as representing three parts of a matrix, as follows:

	TNC-Owned	Domestic-Owned
Dynamic Performer	Repositioning	Growing
Non-Dynamic Performer	..	Stunted

There are few immediately identifiable structural differences between the domestic-owned firms. Both groups contain firms which are large and small, sometimes but not always family owned and run, firms experiencing increased domestic and foreign competition and other structural differences and those that are not. The stunted firms all dropped product lines, or did not take up previously planned ones. They each went through a retrenchment exercise during the preceding five years.

Notwithstanding these broad similarities, each firm's market experience is different. In order to understand the role of past experience and other factors influencing agency, it is important to examine the firms individually. This is done briefly in the case studies below. Their histories clearly establish the breadth of concerns addressed by the firms, and the considerable variation between their strategies, even when addressing ostensibly similar changes in market conditions.

The new strategies, as adopted by the ten case study firms, are summarised in the following table:

Table 6.7 - Case Study Firms - Strategic Changes 1991-96

Strategic Change	Firm	A	B	C	D	E	F	G	H	J	K
New product development		x	x			x					x
Products lines dropped		x		x				x	x		
I Increasing market orientation		x	x	x		x	x	x	x		(x)
II Management practice change			x	x		x	(x)			x	(x)
III Cost control/reduction			(x)	x			x	(x)			x
IV Quality improvement							x	(x)		x	x
V Export Drive			x							x	(x)

Note: The items in brackets were implicit, rather than explicitly mentioned as newly adopted strategies. The firms' codes are shown next to their names in Table 6.3 above
Source: Survey data

YOUNGCO

Young and looking for opportunities: This firm's scope was expanding. Operating in increasingly competitive markets, the firm was trying to diversify to the point where returns would be greater, rather than becoming an ever more efficient and larger player in one or two markets. Based on his previous experience, the entrepreneur saw it as preferable to develop a number of smaller businesses, rather than see one business expanding. The firm's strategy appeared to be primarily based on the entrepreneur's sense of market opportunity, as well as his assessment of his own competencies.

SOLIDCO

Post-puberty consolidation: This business had outgrown its smaller entrepreneurially-driven phase, although it was still primarily driven by the founder. The firm was compelled to reduce costs by the need to become more price competitive. Given its already dominant position in the local market, it was seen as necessary to push for increasing exports to try to capture economies of scale. The latter change, although it was after ESAP, was reported to be only indirectly linked to that programme. The firm's dynamism was also boosted by more market exits than entrants.

RENEWCO

A new broom: This was owned by a non-resident family of Zimbabwean origin. The directors were content to leave the firm ticking over at a low level, rather than to inject new capital.⁸ A new management team arriving in late 1994, had changed strategy to increase capacity utilisation by obtaining more orders and increasing the pace of production. Previously, the firm had been dependent on the then managing director's friends for its ad hoc jobbing-type business. Now, an effort was being made to develop specific products which could be actively marketed to meet local demand. Dependability and quality were seen as

⁸ It is not clear why the owners have not sold the company, however, as it appears that there have been no dividend payments for many years. Possibly this was tried and it was difficult to find a buyer.

the main local competitiveness factors. The company realised it was not able to compete in terms of price, either with newer small scale firms entering the foundry business, or with larger firms reaping economies of scale.

PLASTICO

The odd one out: This company, unusually, had seen a reduction in numbers of local competitors and little increase in foreign competition. The company was running three shifts and producing at 100% capacity to meet increased local demand. Nonetheless, competition among the remaining local firms had increased. Industrial customers, themselves facing increasing competition, always wanted the lowest cost supplier. Price was considered the leading competitiveness factor, followed by quality. Since 1993, this had led to a strategy of trying to arrange longer run supply contracts with customers to ensure that work flows steadily on a continuous basis, rather than the earlier jobbing type arrangements.

PUSHCO

Pushing quality and exports: A cartel-type arrangement with the firm's two leading competitors had been broken shortly after the introduction of ESAP, when another company initiated a price war. In the construction sector, local demand fluctuated with the droughts and falling real incomes. Competition from the informal sector had increased, although it was reported that new firms appeared and disappeared frequently. Price was seen as the prime competitiveness factor, with quality second. Nonetheless, the firm had pushed quality as part of a cost-rationalising reorganisation of production (see Section 6.4). This was reinforced by a drive for export markets, especially in South Africa, which required increased quality standards. The firm is supported by its locally listed manufacturing group parent, although this appeared not to carry the same advantages as the TNC parent firms. The firm's strategies are those necessary to maximise its contribution to short term group profitability, rather than longer term corporate sustainability.

QUALCO

Quality throughout: This firm had been exposed to new international competition, although it was suggested that most new importing firms had exited the market again. The strategic changes involved swifter reaction to changes in the marketplace and, in particular, pushing for improvements in quality. The company saw quality as the key to local competitiveness, followed by price. Its adoption of a cost containment strategy predated the shift in economic policies. Being part of a market leading TNC group has no doubt assisted the company in implementing these strategies.

MONOPCO:

Monopoly lost: This firm used to have a virtual monopoly in the local marketplace, but since the easing of foreign exchange restrictions had experienced increased import competition. The company shifted from being 'production-driven' to being 'market-driven'. It adopted a strategy, taking advantage of its local positioning, to compete in the area of customer service, in particular by responding swiftly to orders. Price was still considered important, however. Consequently, the company had been following a stricter cost control strategy since 1991. This has been associated, as discussed below, with new productivity-enhancing investments. As the company is locally listed and TNC owned, it has had to focus on maintaining short term profitability to support dividend payments, while also providing enough funds for re-investment. Finally, as a way of improving capacity utilisation, the company has also implemented a regional export drive since 1994.

Group III - Stagnant Firms

STATICCO:

Conserving and holding: The firm had a considerable share of a declining local market (100% for one of its two major products). Its main priorities to cut costs wherever possible and to get rid of product lines where margins were too low. Production of items for the garment industry was stopped in the early 1990s. With reduced demand generally, after

ESAP, the firm had decided to increase its flexibility to enable it to take on any available work, no matter how small. The firm tried to maintain its monopoly position in its main product line by cutting its costs to keep prices attractive in the local market and to dissuade its customers from attempting to import. This owner-directed firm was run at a distance, with its production operations in a different location from its head office. It appeared the main interests of directors were elsewhere engaged.

SANDCO

Head in the sand: This firm claimed not to have adopted any new strategies since the inception of ESAP. Its short-lived attempt at product diversification was suspended before production commenced. This abortive experience may have led the firm's directors to be wary of venturing in other new directions. Interestingly, the firm's South African parent appeared content to continue receiving a small annual dividend, in return for very little active input. Unlike the TNC subsidiaries, it is also possible that the parent firm lacked the capacity to adopt a more dynamic stance.

DELAYCO

Postponing substantive change: This locally owned firm was still the market leader in its main product line. It had clearly been feeling the impact of increased foreign competition. It sought to compete both on price and quality, and in particular by improving its product designs, which it considered the key to local competitiveness. It had an internal design department which predated ESAP. Due to the pressures of increased real interest rates and increasing market uncertainty, the firm had postponed its plans to re-equip its factory, shortly after the introduction of ESAP. While it had benefited over many years from licence and joint venture agreements with international market leaders, it had lacked the dynamic boost the TNC subsidiaries had received from their parents.

These accounts demonstrate the lack of a uniform explanation of the strategies adopted by firms in this sector. In general, the larger firms adopted a quality orientation. While three case study firms acknowledged price as the most important factor, only one of them was among the four firms which adopted cost containment strategies. The implication of this assessment is that it was not solely the firms' perceptions of what was required to become

more competitive which drove their adoption of a diverse collection of new strategies.

The role of agency, in terms of its bearing on the detailed relationship between ownership structures and the firms, is also difficult to discern in these studies. Many of the 'growing' firms were run by the entrepreneurs themselves, highly motivated individuals whose livelihoods depended on making a success of their business. Vested with a greater degree of drive, they were continually on the look-out for better solutions to their problems. This is not to suggest they were necessarily investing more (see below). The repositioning firms both had professional management teams whose careers within their international groups were tied to the performance of their firms. During the post-independence, closed economy years they were the effective custodians of their firms, as the TNC parents tended not to be interested in subsidiaries which were unable to remit profits. With the lifting of many foreign exchange and capital controls parent firms became more interested in their Zimbabwean subsidiaries. Once back in the mainstreams of their respective groups, the local management teams felt they had much to prove.

It appears from this subsection, that it is the particular histories of each firm which best explain the approach to change for that firm, rather than any simplistic interpretation of uniform responses to relative price shifts. Nonetheless, there were some common constraints and limits to change across the firms. These are examined in the remaining sections of this Chapter. Before that, however, there is an examination of increasing exports as a strategic option of particular importance to the motivation behind the changes in economic policy (and to the prospects of future industrial development).

6.3.3.2 Shifts to greater export orientation

The characteristics of exporting firms were difficult to discern clearly from the broad surveys. Older firms were more likely to export. The ES Census data showed that only 28 percent of exporting firms were formed after independence.¹¹ 76 percent of firms established before independence were exporting in 1995, against only 38 percent of those formed after 1980. It was not clear from the ES Census whether those firms exporting prior to ESAP were those whose exports later grew more quickly.

¹¹ The comparative figure from the RPED data was only 10 percent (Mafusire, 1995:33)

This subsection examines what lead some firms to adopt an export promoting strategy after ESAP. It appears in the following analysis that such firms had prior exporting experience as well as an established marketing and sales staff. Yet this does not explain how the firms went into exporting in the first place. The recent policy shifts did not provide sufficient impetus for non-exporting case study firms to commence exporting, or for some of the smaller exporters to significantly increase their efforts in that direction.

Two of the export drive firms, PUSHCO and MONOPCO, were already exporting higher percentages of their exports than other firms before ESAP. These firms already had sizeable and established marketing divisions or departments. Prior success in exporting may have made the strategy more likely to be successful, and hence, possibly, more likely to be adopted. The repositioning firms were distinctive here. Both had over 10 percent of their staff in marketing functions. In the other firms such functions were mostly assumed by senior management.

That relative price changes following the macro-economic policy shifts provided an inadequate incentive for entry into exports is supported by responses from both growing and stagnant firms that they felt the quality of their products was inadequate, or they lacked capacity to explore export marketing possibilities by themselves.¹² STATICO, for example, found itself caught in a catch-22 situation. The only export orders it was able to compete for were elsewhere in Africa and beyond its production capacity. The orders were not expected to be regular enough to justify the required investment in expanded capacity. With the emergence of South African producers as acceptable exporters in the region, STATICO was even less likely to invest in exporting. It is not clear that the firm's directors had conducted any market research to sustain these opinions.

These difficulties are also associated with characteristics of particular products, for example, structural steel products. There are economies for structural steel firms, if the firm is based close to the project site, as they are both manufacturing at their plant and installing on site. Similarly, this gives such firms some 'natural' protection in serving the domestic market.

¹² The activities and constraints of the export promotion agency, ZimTrade, which is attempting to encourage and facilitate local companies in the direction of exporting, are assessed in Chapter 7.

6.3.4 Investment implications and impediments

As with the move to greater export orientation, it appears from the case studies that the firms' pre-ESAP investment history helps distinguish those which invested at higher rates thereafter. Again, this does not suggest why such firms initially became more consistent investors. Regrettably, there are insufficient data to address this matter. The important finding is that, as above, changed incentives do not provide a convincing explanation of investment patterns.

Investment ratios varied considerably from one firm to another and within particular firms over time. The best measure of new investment would have been capital expenditure as a percentage of capital stock. Data on capital stock is notoriously difficult to calculate reliably, however. In Zimbabwe, data on the book values of fixed assets gave little idea of capital stock in use. In most firms the average age of capital equipment was around 20 years, so the equipment value had long been fully depreciated.¹³ Book values were used, however, as no reliable alternative methods were available.

Only three firms decided to introduce new products after 1990/91. Of these, the only substantial investment for this purpose was by the repositioning MONOPCO. The firm had been one of the most consistent investors during previous years. Its capital expenditure had rarely been under 2.5 percent of its gross output and 8 percent of its fixed asset values. This appeared to be more or less sufficient for replacement purposes. As a result, the average age of its capital equipment was 15 years, as opposed to at least 20 years for most of the other firms.¹⁴

¹³ Gunning and Pomp (1995) use a complex technique to calculate an index of capital stock for the RPED firms. This involves estimating the value of capital stock in 1990 and using a continuous investment history since that date to establish changes year on year. To do this they work backwards from the 1994 "sales value of capital stock" and apply a constant depreciation value and a fixed ratio between sales and the economic values of capital stock. The problem with this method is that the authors make so many arbitrary adjustments, notwithstanding their base in actual investment expenditures, that the final values for capital stock have little necessary connection with a sense of true capital stock values. They also use the indices to indicate changes at sectoral level, which is of little use for the firm level investigations made here.

¹⁴ See further discussion in Section 6.5 below.

The other most consistently active investor was PLASTICO. It had been steadily expanding its capacity. Nonetheless, it regularly operated at full capacity. It was in order to ensure that this capacity was well and regularly utilised, that the firm had attempted to change away from jobbing to seek more continuous supply contracts.

For both of the above firms, their investments were not part of any new post-ESAP strategy. Rather, these firms had established a higher investment profile during the years leading up to ESAP. This was maintained after 1990/91. Interestingly, these firms were the only two to operate on three shifts. While they were investing more, the burden of trying to make their investments pay, was driving them to maximise capacity utilisation. In most other cases, the adoption of new strategies did not lead to significant new investment.

Of course, looking at *actual* investment patterns tells us little about what the firms would like to have done. Seven firms suggested they had been constrained from investing since ESAP, including all three stagnant firms. Lack of access to finance or its high cost may account for the latter firms adopting more conservative stances. For SOLIDCO and SANDCO, their financial problems were resolved in part through capital injections. In the remaining cases, it seems the planned investment was either postponed or cancelled altogether - the most notable example being DELAYCO's decision to postpone indefinitely the re-equipping of its factory.

While this research has not made financial issues a prime focus, it is clear that investment constraints are more complex than high real interest rates and licencing difficulties alone. Again, the conclusion is that an explanation for observed variations has to be sought elsewhere than in the adoption of new strategies alone.

6.3.5 Outcomes, problems and constraints

If the chosen strategic changes were well implemented and appropriate, their effective implementation should produce visible and positive outcomes . This subsection examines some of the outcomes of the various strategic changes.

6.3.5.1 Strategic Outcomes

No company seemed to be doing well on every performance indicator, or to have met all of its strategic objectives. Even those firms achieving most success in terms of the indicators faced difficulties regarding particular performance criteria.

This implies that surveys linking broad changes in relative prices, or in product mix, to performance outcomes, may provide indicators at a macro or sectoral level, but will be unable convincingly to account for the path of change. A more detailed and nuanced picture is required to trace a continuum from changes in an economic environment, through changes in firm strategies, to changes in firm behaviour. The remaining sections of this chapter are intended to provide some of the details to ensure an understanding of the routes firms take to adapt to change within or to effect change in their external economic environment.

The Push for Exports

Drives for export growth met with mixed outcomes, both within and across firms. Without a more detailed investigation of each firm, it is very difficult to assess the reasons for the uneven year on year performance. It is questionable how successful these strategies were, when QUALCO, which had not adopted a specific export growth strategy was amongst those which saw good export growth in the years after ESAP.

A Note on Investment

The data on continuous investment and performance were too limited to draw any significant associations between investment patterns and performance outcomes. The only suggestion was of a negative association between investment and gross output productivity in the same year, possibly reflecting a learning period, as workers adapted to the new machinery or plant.

Other Strategies

The outcomes of these also appeared very mixed. The main features included: narrower product lines across firms; retrenchment as the main form of implementing cost reduction; and, the fact that the repositioning firms were among the first firms in Zimbabwe to obtain

ISO 9000 quality accreditation. It is very difficult to assess whether the last of these could have been more effectively supported through different changes in economic policy. The first two are not so clearly positive changes, and depend on the success and impact of other changes examined in the following subsections.

6.3.5.2 Strategy implementation: problems and constraints

Of the 22 recorded changes in strategy adopted by the firms, six were implemented without any problems. The most common problem was resistance by other managers, as experienced in nine cases. This form of institutional legacy can impede, or retard change, when those most affected have their normal practices and interests challenged or threatened. Such resistance will tend to be stronger when there is a lack of information available to those affected, or they are not involved in the decision process leading to the change, and/or respect and loyalty are low.

Managers had been accustomed to producing the same products for many years, for a market which was pleased to absorb whatever was produced. In many cases, little regard had been paid to quality; to when the product was required; and, to whether it precisely met specifications. Changing such an approach took time. The managing directors or chief executives, who had been in their firms for some time, would first have had to deal with such resistance to change within themselves.

Other types of resistance to change are examined in the following sections.

6.4 ORGANISATION OF PRODUCTION

While for analytical purposes organisational changes are examined separately from other changes, such as those in technology or skills, they are often not implemented independently. This section seeks an explanation for the positive, indifferent or negative impacts of organisational change on firm level performance.

An assumption runs through the writings of Kaplinsky and Posthuma, among others, that the introduction of so-called new management techniques (NMTs) is essentially beneficial for

companies, being an alternative or complement to technological change (see Section 6.5). The only problem is how to persuade firms to do it, and to do it well.¹⁵

In essence, there are two groups of questions that need to be answered in this section. The first group deals with the character of the changes themselves. How and why does the pattern differ across the firms? How well implemented were they? Was there any resistance to their introduction? Were there other problems and constraints? How sustainable are the implemented alterations? The second group relates the organisational changes to firm performance. What has been their impact on other aspects of firm behaviour? What differentiates the performance outcomes?

Here, the first subsection examines the pattern of organisational changes adopted by the case study firms. This includes examining the stated causes; workers' awareness of the changes taking place; sources of information used in introducing change; and, problems encountered. The analysis includes examination of workers' experiences of team work, rewards for suggestions made and overtime.

The second subsection examines whether there is any association between implementation of organisational modifications and other alterations in firm structure and behaviour, or changes in performance.

6.4.1 Changing the Organisation of Production

6.4.1.1 What has been changed?

Given that the case study firms are among the more dynamic of the entire ES Census sample, it is not surprising that six of the 10 firms were found to have introduced at least three organisational changes. This compares with 49 percent of the ES Census firms overall.¹⁶ The actual changes introduced are indicated firm by firm in Table 6.8. As noted in Chapter 3, a list of possible changes was offered to respondents. The responses were undoubtedly

¹⁵ See discussion on the Zimbabwe research by these authors in Chapter 4 above.

¹⁶ While the changes are supposed to relate to those introduced since the start of ESAP, in several of the case study firms, they were started prior to ESAP. Where they were non-continuous, they have been excluded from further consideration.

biased, therefore, in the direction of these changes.

Table 6.8 - Case Study Firms - Organisational Changes 1991-96

Organisational Change	Firm	A	B	C	D	E	F	G	H	J	K
I Reorganise layout of plant			x	x		x				x	(x)
II Just-in-time inventory reduction			x							x	(x)
III Quality-at-source/task forces		x	(x)				x			x	x
IV Continuous improvement		x	x				x		x	(x)	x
V Increase team work			x			x	x	x		x	x
VI Expand worker-management communication			(x)	x	x	x	x	x	x	(x)	x
VII Introduce/increase shift work		x								(x)	

Note: The firms' codes and names are shown in Table 6.3 above. The items in brackets are of lesser importance and not referred to in the following analysis, which limited the detailed coverage of firm changes to three per firm (not including team work).

Source: Survey data

The 'stunted' firms, SANDCO and DELAYCO introduced the fewest changes of all the case study firms. Although STATICCO introduced two changes, as did RENEWCO and PLASTICO, as will be seen below, these changes were of a more conservative type.

For the sake of comparison, to see how typical of the broader sector the case study firms are, Table 6.9 shows the percentages of firms implementing these changes across the various size groups in the census sample as a whole.

Table 6.9 - Engineering Sector - % Firms introducing Organisational Changes 1991-96

Organisational Change	Firm size ¹	20-99	100-249	>=250	Total ²	Case Study Firms
None		10	9	0	13	0
I Reorganise layout of plant		63	70	67	62	60
II Just-in-time inventory reduction		16	22	48	22	30
III Quality-at-source/task forces		28	39	71	34	50
IV Continuous improvement		59	70	71	56	70
VI Expand worker-management communication		54	61	67	54	90
VII Introduce/increase shift work		15	30	24	16	20
Av. No. of Changes		2.4	3.0	3.5	2.5	3.3

Notes: For the sake of comparison, the case study firm responses include those pre-ESAP changes included; 1 - Size is in number of workers; 2 - Totals include firms with fewer than 20 workers as well; Change V was not listed as an option in the census questionnaire

Source: ES Census Survey data

Table 6.9 shows that larger firms implemented more changes, especially those classified as New Management Techniques (NMTs).¹⁷ Many larger firms did not introduce large numbers of changes, however. So size is not sufficient to explain the frequency of change. Older firms, especially those established before UDI, also implemented significantly more changes on average, than post-independence firms (2.9 versus 2.1). Exporters made an average of 3.1 changes, compared with 1.6 for the non-exporters. Possibly this is an indication that, despite the opening up of the economy, exporting firms receive more information about the types of changes being introduced elsewhere, and are under greater pressure to improve their efficiency to stay abreast of their competition.

The frequency data are of limited value, indicating nothing about the quality of the changes, or their impact. This is examined below.

6.4.1.2 The changes in detail

In general, the changes in the repositioning firms seemed to be the most effective, which is probably due to their greater management capacity; these firms were also able to follow examples and learn from elsewhere in their TNC groupings. The changes were not introduced, however, without conflict. The 'stagnant' firms implemented the fewest changes.

I Reorganised Plant Layout

In only one case was this change specifically part of a firm-wide plan to improve production efficiency. Around 1993, PUSHCO implemented a range of organisational modifications under the KPS (Kawasaki Production System) rubric. This was complementary to the firm's quality improvement strategy (see Section 6.3). It was also an effort to retain market share by being able to match production levels more rapidly in response to demand fluctuations, while controlling costs in the face of increasingly fierce domestic competition. In research utilising the RPED survey, it was noted that KPS "seems to be a fad in some circles in Zimbabwe" (Biggs et. al., 1995:136). This is confirmed by the prominence it is given in the work of Kaplinsky and Posthuma. The research results in this thesis demonstrates that KPS

¹⁷ The main ones that generally fall into this category are changes II, III and IV.

was just one, amongst a number, of different types of organisational change taking place in the 1990s.

II Introduction of Just-in-time (JIT) Inventory Reduction

With the increasing cost of credit and therefore of working capital in the early 1990s, it is surprising that this was the least popular change at sectoral level. A number of managers from non-case study firms suggested there was a lack of information available to these firms about how to go about introducing the change, in the face of problems in obtaining predictable, reliable and timely steel supplies from ZISCO and other suppliers.

Managing directors from the three implementing firms all said stockholding had been reduced following the implementation of the changes. Two of the three said that work-in-progress holdings had been reduced as well.¹⁸

III Quality-at-source/Quality Task Forces

This change is the most closely correlated with firm size (see Table 6.9). None of the 'stagnant' firms implemented such change.

The effectiveness of the change can be assessed by examining the reject or defect rate in production. Most companies did not keep precise information on this indicator, however.¹⁹ Three of the firms introducing quality at source reported reductions in reject rates of up to 90 percent since 1991 (PUSHCO and SOLIDCO). These were estimated, among implementing firms, to be as low as 1 percent and as high as 20 percent in 1991. By 1996, none of the implementing firms were estimating their reject rates at higher than 5 percent. Of the non-implementing firms, only one talked of a significant reduction. Reject rates remained as high as 17% among these firms.

Another impact of the change was a reduction in staffing of the quality control function among the repositioning firms. QUALCO was the only firm to disband its quality control

¹⁸ The third suggested no change.

¹⁹ The same was noted in the RPED survey (Biggs et. al., 1995: 135).

unit at the start of the change in 1994. It had to reinstate it, as quality plummeted. At the time of the survey, it was in the process of trying to eliminate the unit again. MONOPCO reduced the number of personnel in that unit, but in addition downsized its staffing across the board.

IV Continuous Improvement

Usually, these changes are understood to mean instituting measures to ensure that workers are continually looking for ways to improve the production processes. In some firms, implementation was associated with the introduction of team working (see Table 6.10). Regular production meetings of the teams discussed ideas for work process improvements. In some firms, this was supplemented by a suggestion box, in two cases supplemented by a rewards system (see Table 6.4.3). These boxes had met with little success in some firms and had been abandoned.

Effectiveness of implementation was difficult to assess. None of the firms appeared to have systems in place for recording the number of ideas or suggestions contributed. There was also little correlation between firms implementing and frequency of suggestions received.

The changes amongst the 'growing' firms seemed less effective. At PUSHCO, the sustainability of change was questionable. Relatively few of the workers making suggestions at the time of the survey felt their ideas were being implemented. Only 16 percent of workers interviewed were of the view that there was still a performance award system in place and none had been rewarded.

All management respondents agreed that implementation rates increased with the grade of worker making the suggestion. There was a correspondence between the grade of worker and the likelihood of their suggestions being used, with 81 percent of foremen/supervisors' suggestions being implemented as opposed to 25 percent of unskilled workers' ones. It is possible that unskilled or semi-skilled workers made suggestions to their supervisors or foremen, who either did not pass them on to management, or presented them to management as their own.

This change is important in that firms with greater percentages of workers contributing to the

improvement of production processes are likely to be able to manage change better, to be more innovative and be better able to adapt to change. It appears that a move to continuous improvement is insufficient on its own, and that other firm characteristics, such as respect and trust relations are also important in understanding how such moves can be more or less effective (see Section 6.6).

V Increased Team Work

It is argued that along with multi-skilling, this is particularly appropriate in the face of increasing economic uncertainty. Firms can more easily reassign workers or their teams to other tasks during slack periods. There was some association between team work and multi-skilling, as can be seen in Table 6.10.²⁰ Overall, the changes are not necessarily associated with dynamism, as two of the 'stagnant' firms have also introduced elements of these changes, as part of their moves to increase their flexibility.

QUALCO (F) and PUSHCO (J) had introduced team work alongside other changes some 3-4 years before the survey was conducted. Fewer of their workers noticed an additional emphasis on team work during the 12 months prior to the case study survey, than the other firms, which had made the change more recently.

Table 6.10 - Case Study Firms - Team work

Firm	A	B	C	D	E	F	G	H	J	K
Firms introducing team work ¹		x			x	x	x		x	x
% of workers indicating they had worked more as part of a team during the past year	50	64	45	25	62	39	60	53	37	67
% of workers indicating their work intensity increased in the past year ²	29	46	18	25	62	67	53	33	28	55
Firms which have reassigned tasks during slack periods in past year ¹	x	x		x	x	x	x			
Firms introducing multi-skilling ¹		x	x			x	x	x	x	x
% workers <u>not</u> doing same tasks every day	37	36	64	50	31	61	60	47	37	58

Note: 1 - Information from firm management, all other information is from workers; 2 - measured by asking about change in number of tasks required per hour.

Source: Survey data

²⁰ The questionnaire did not ask about the change in the same way as the others covered here. Consequently the information available is less comprehensive.

In order to optimise the benefits of team work, and for them to be able to be more flexible and adaptable, to cover for each other in case of sickness or change in workload, workers need to become multi-skilled. This aspect of team work is a source of one of workers' objections to it, as being multi-skilled increases work intensity and associated stress, especially if there are daily targets for teams, regardless of the non-availability of team members (see Lloyd, 1994).

The 'repositioning' firms were again among those which appeared to have implemented the changes most effectively. They had observed the greatest increase in work intensity. They also had relatively high percentages of multi-skilled workers.

VI Expanded Worker-Management Communication

In many of the case study firms, the attempts to improve communication were essentially top down. They were driven by managers trying to get their workers to understand them better or to perform better. No reciprocal obligations were recognised by management to respond to what the changes might imply about their attitude to their workers.

Improved communication seems to be rather a catch-all category for organisational change. Nine of the case study firms indicated they had implemented it within the previous five years.²¹

Effectiveness of this change was very difficult to assess, but seemed poor, in general. The three 'growing' firms, which did not highlight this improvement (YOUNGCO, SOLIDCO and PUSHCO), had the highest percentage of workers saying they were consulted about work improvements, as well as asked to contribute ideas about the future of the firm. It is likely, therefore, that the claim to have introduced such improvements was, in itself, an indication of problems in that area. This theme is returned to in Section 6.6 below, when respect and trust issues are discussed.

²¹ This was a much higher percentage of change than the average for the census as a whole - see Table 6.9.

Only PLASTICO and MONOPCO, with more modern and more automated production machinery, were running on three shifts which they had been doing since before ESAP. Changing shift work patterns was not considered by any firm as a solution to the external changes taking place, which means a major method for improving productivity was accorded little attention.

The RPED results found a similar proportion of their firms using shift work (six of 35 plants). Moreover, where more than one shift was worked, "the higher night wage and other costs exceeded the savings from using fixed capital more intensively." (Biggs et. al., 1995:132). The other constraints, not covered in that survey, were the limited numbers of managers in each firm and the lack of developed trust relations. Together, these meant that night working was not easily delegated to more junior staff (see Section 6.7).

6.4.1.3 Sources of Information and Advice

One aspect of how effectively, or not, the changes were implemented may be related to the sources of advice and information used. A total of 23 organisational changes were introduced by the 10 firms. The most common information source, involved in 14 cases, was in-house knowledge. For six changes, it was the only source. It was not surprising to find that the smaller 'growing' and 'stagnant' firms featured the 'home-grown' approach substantially.

The 'repositioning' firms both relied on extensive parent company knowledge and advice. The greater depth of experience available is reflected in the greater effectiveness of implementation noted above. The capabilities of local management and relevant workers were still important, however, to adapt the imported methods to local cultural and business norms and to translate effective implementation into improved (firm) performance.

6.4.1.4 Problems Encountered

The most common implementation problem according to the managing directors, in 10 of the total 23 cases, was worker resistance. Many of the NMTs, for example quality-at-source, in

particular, increased the levels of responsibility to be assumed by production workers. Consequently, there was a strong likelihood of early resistance. In particular, it appears that, where there was no potential immediate reward for implementing the changes, beyond vague and poorly backed up reasons such as “the survival of the company depends on it”, there was no reason for workers to develop any sense of commitment to any particular change. This was particularly true where respect and trust relations were already poor within the firm.

Eight of the 10 problems, reported as being due to worker resistance, were related to the introduction of NMT-type measures. In eight of the instances of worker resistance, however, management noted that worker involvement ultimately facilitated the changes.

There was little pattern of association between other problems and specific changes or firms. The major item of interest was the lack of frequency with which skills were referred to as a constraint.²² Given the difficulties inherent in the adoption of changes, this may reflect the limited awareness of management about what it takes to change organisations successfully, rather than that skills were *really* not a problem.

Looking at the changes as a whole, it appears that the larger, more dynamic firms, such as QUALCO, PUSHCO and MONOPCO, with access to the greatest amount of external advice, implemented the most changes and, in their own terms, probably did this best.

6.4.2 The Impact of Organisational Change on Performance

Overall, given available data, it is very difficult to identify specific causal relationships between any of the organisational changes and any performance indicators. Of 26 specific measures to increase productivity, cited by production manager respondents, only seven were directly related to organisational change.²³ While Kaplinsky (1994) and Posthuma (1994 and 1995) suggest that many firms adopted NMTs as a way of improving performance, more cheaply than through the introduction of technology and without having to spend scarce foreign exchange, none of the other organisational changes were mentioned as specifically

²² This was only mentioned three times.

²³ The great majority of productivity improvement measures are examined in Section 6.5 below, including, in order of frequency, expanded training, changes in production process, and introduction of new plant and equipment.

aimed at improving productivity.

Various indicators of productivity have been calculated.²⁴ Apart from numerical measures, there are managing directors' and production managers' indications of change in firm productivity on a volume basis. There is a great disparity between these indicators (see Table 6.11). It is almost impossible, therefore, on the basis of available data, to be categorical in asserting the presence of strong associations between particular organisational changes and productivity, on the basis of a single indicator. This would require more detailed firm level performance measurement.

Examining each change in turn, Table 6.11 summarises whether organisational changes are associated with a positive productivity outcome or not. The table shows a "+" when the majority of firms introducing a particular change have experienced a positive change in that productivity indicator.

6.11 - Organisational Change and Productivity Outcomes

Productivity Indicator	Actual Change in 1990s (net output basis)	Actual Change since the Organisational Change ¹	Managing Director's View	Production Manager's View
I Reorganise layout of plant	-	+	+	+
II JIT	=	..	+	+
III Quality-at-source	=	=	+	+
IV Continuous improvement	=	+	+	+
VI Worker-management communication	+	+	=	+

Note: '+' = the majority of implementing firms shows a productivity improvement; '=' = the same number have an improvement as a decline; '-' = the majority show a decline; 1 - data is very thin here and for two of the changes is based on one implementing firm only.

Source: Survey Data

The Table suggests that, on balance, implementation of the organisational changes was not associated with declining productivity. However, this analysis does not address the counterfactual of whether the improvements would have been greater without the organisational changes, or indeed whether alternative types of changes would have had a more beneficial impact. It is important, for example, to establish where these changes accompanied the introduction of new technology, or whether they were being perceived as

²⁴ These include gross and net output per worker - see Appendix 6.1.

a substitute for technical change.

Statistically, a number of associations emerge.²⁵ Productivity change (net output) in the 1990s and the percentage of workers experiencing more team work in the previous year produce a Pearson correlation coefficient of -0.67, significant at 3 percent. This indicates a strong negative association between the increasing extent of team work in a firm and change in productivity. The correlation is stronger between the same indicator of change in productivity in the last year from which data is available (1993/4 to 1994/5) and the same team work indicator (-0.74).²⁶ Given the timing issues here, it may be that the causality, if any, was from poor productivity experience to team work, rather than the other way.

There is also a negative correlation of -0.71 (8 percent) between the one year productivity change indicator and the percentage of workers asked to make suggestions for work improvement in the firms. Again, the causality if any, may be from poor productivity performance to a hunger for new ideas within the firms, whether formally incorporated in the implementation of "continuous improvement", or on a more *ad hoc* basis.

The implications of the last two points are that it may be that changes internal to the firm, such as worsening productivity, which drove the need for change as much as those external to the firm.

Finally, there are positive correlations between the percentage of workers being rewarded for contributing ideas and 1990s productivity change, whether measured by net or gross output.²⁷ The rationale here may be that the firms which were able to improve their performance were those which chose, *inter alia*, to reward their workers.²⁸

Given the uncertainty about any particular indicators, due both to poor quality data and the small sample size, it is perhaps safer to examine the firms individually and assess whether

²⁵ Although the correlations may appear significant, given the small sample size, any such interpretation is risky.

²⁶ The significance is lower, however, at only 6%, as there are only seven firms with the necessary data.

²⁷ The stronger one is with net output productivity change at 0.66 (4 percent significance).

²⁸ This in itself might be related to better internal respect relations - see Section 6.7.

those implementing particular organisational changes, or doing so more effectively, are reaping greater rewards. However, examining the data on this basis provided no conclusive support for superior performance by firms which were implementing more changes. Neither of the 'repositioning' firms has seen the highest growth in productivity in the past few years, despite their evident dynamism.

Overall, it appears that organisational changes alone are unlikely to be able to significantly improve firm performance. Apart from the difficulty of implementing them well and sustainably, there may be a number of associated negative aspects, such as increasing responsibility and stress for workers who are not prepared for such changes, which may in turn impinge upon performance in other unforeseen ways.

6.5 SKILLS DEVELOPMENT AND CAPITAL INNOVATION

The objective of this section is to understand both the overall pattern of change, as well as reasons for the differences across the firms. The relationship between different technical and skills development approaches and firm performance and dynamism is also highlighted. The ability to develop and implement new strategies and production processes is dependent on a firm's capabilities, both in terms of its workforce skills, including management, as well as the state of its technology in use and that which it is capable of developing.²⁹

In Zimbabwe in general (Biggs, et. al., 1995), and among the case study firms in particular, limited innovative activity was taking place. While to some extent this was due to investment decisions and problems discussed in Section 6.3 above, it was also related to the skills composition of most firms' management and workforce. For example, problem diagnosis skills are important in deciding on new types of technology. Training will make it easier for machine operators to adapt to new machinery.³⁰ Other technical characteristics of the firms, including in-house maintenance and trouble-shooting capabilities, are also skills related and affect firm performance. Thus, as a source of firm performance differentiation,

²⁹ See Enos (1991) and Lall (1993) on "technological capabilities".

³⁰ For more extended discussion of this, see Wood (1995), and various articles and papers by researchers from the National Institute of Economic and Social Research (UK), for example Daly et. al. (1985).

it is likely that better explanations will be found through examining firm skills characteristics in detail, rather than technology.

Despite the close linkage between firm skills and technology practices, for clarity these are treated separately. The first subsection provides an overview of the technological status of the case study firms, as well as the technical changes they have introduced since the advent of ESAP. The second subsection examines the skills portfolios, recruitment and training practices of the case study firms. Throughout the analysis, firm differences are assessed and associations are sought between the skill and technology profiles and firm performance and dynamism.

It is apparent that the associations between technical capabilities and firm performance and dynamism are complex. There is little substantive innovation in Zimbabwe, which means that firms are more reliant on developing their human capabilities to create greater internal dynamism. Likewise, it is the development of skills within the firm, rather than the employment of a larger proportion of highly qualified artisans, which appears to have the greater linkage with firm dynamism.

The 'repositioning' firms, with their external TNC linkages, have shown the greater propensity to improve the breadth and quality of their training. It is not clear, however, that this is sufficient to complement the organisational changes outlined in the previous Section and contribute adequately to the future growth and development of the firms. The more independent 'growing' firms tend to try and do most of the training in-house. There are serious doubts concerning the quality of training and management in those firms. Two of the 'stagnant' firms employ relatively high levels of skill, but are doing little to encourage their workers to develop them further and to make an active contribution to the future of those firms.

6.5.1 Technical Characteristics and Change

Despite the undoubted importance of technical change for industrial development, there has been very little technological upgrading since ESAP. This is closely related to the problems with investment examined in Section 6.3.

Most of the metal engineering firms in the case study purchased their main production technologies through the acquisition of appropriate machinery from abroad. A few have some in-house capacity for making new dies and tools. In most instances these would be copied from earlier models or other firms. The most advanced technical activities conducted by any of the firms is some design work. Original research and development is minimal.

During UDI and post-independence era, much product and process innovation was through adaptation and incremental improvement. On the eve of ESAP, therefore, many firms were using long-since fully depreciated machinery and internationally obsolete technologies. As outlined in Section 6.3 above, this did not mean, however, that firms were incapable of competing. In a number of areas, simple agricultural implements and structural steel, for example, the relatively cheap capital costs (from old equipment) and other structural advantages (for example, location advantages for heavy engineering products) meant that old technologies were still producing appropriately priced and suitable quality products for potential consumers.

6.5.1.1 Technology in use

In comparison with international figures, the ES Census data shows that Zimbabwean technology is rather undeveloped. For example, by late 1995, only 31 percent of local engineering firms were using numerically controlled (NC) or computer numerically controlled (CNC) machinery. Virtually the same percentage of firms were using computer-aided design (CAD). Eric Wood's 1993 survey of 41 South African engineering firms found 56 percent using these newer technologies (1995: 106). In the early 1980s, Daly et. al. (1985) found that 94 percent of German firms and 44 per cent of British firms were already using the same types of machinery.

Technology is clearly size-related in Zimbabwe. Only 22 percent of firms with under 100 employees claimed to be using NC or CNC machinery, while, 57 percent of the firms with 100 employees or more were using this type of machinery. This latter figure is still less than for the South African survey, where *all* firms in the latter size category either had such machinery, or were considering its introduction (Wood, 1995: 107).³¹

³¹ The Zimbabwe data does not capture information on firms "considering" machinery investment. It is not clear what "considering" introduction of such machinery means.

Of the case study firms, three use CNC machinery, namely QUALCO, DELAYCO, and PLASTICO. MONOPCO also uses modern machinery, but its machines are all manually controlled, not automatic or computerised. For QUALCO and DELAYCO, the CNC machines comprise a little under 10 percent of the total number of machines in use, while for PLASTICO, NC and CNC machines comprise 60 percent of the total.³²

For most of the firms, the average age of their machinery was reported as between 20 and 30 years old (see Table 6.12). This was similar to the World Bank findings in the late 1980s (1990: 18), which indicates that equipment has been replaced at a steady rate since that time. PLASTICO and MONOPCO's lower average ages reflect those firms' more persistent and regular programmes of capital expenditure (see Section 6.7). All the CNC machines were purchased after ESAP was introduced.

Table 6.12 - Firm Machinery Characteristics³³

Firm	A	B	C	D	E	F	G	H	J	K
No. of standard machines	20	30	30	120	60	40	120	10	460	35
Average age of those machines	6	30	12	30	28	23	20	13	21	15
No. NC/CNC machines	0	0	0	0	0	4	2	15	0	0
average no. operations per product	6	8	5	3	10	28	75	3	8	9

Source: survey data

CNC purchases are associated with the complexity of the production process. One indicator of this technical complexity is given by the number of discrete operations involved in the manufacture of each product. Firm DELAYCO stands out as being involved in a significantly more complex production process than any other firm, although firm QUALCO is also more complex than the rest. By the end of the period under review both firms have already purchased CNC machinery.

³² Most of firm H's machines are computerised plastic moulding machines, which are a little different and less sophisticated than CNC metal working machines (although their machinery complement includes one of those as well).

³³ There is some imprecision likely in the data on the number of machines per firm, as there will be a minimum size of machine that each respondent used. This was not standardised across the survey.

Other technical indicators, such as set-up time, frequency of set-up change and batch size, would only be meaningful bases for comparison if several firms were manufacturing similar products.³⁴

6.5.1.2 Technological change since ESAP

Overall, it appears that there has been relatively poor development of technological capabilities since ESAP.³⁵ The differences between the changes made by the case study firms are not easily classifiable by the broad firm groupings. Table 6.7 showed that only the 'growing' or 'repositioning' firms conducted product development. Size appears to be one of the major factors associated with technical change, even the 'stagnant' DELAYCO introduced some technical change.

The case study firms had slightly higher rates of change than the ES Census averages. The most common type of innovation across the engineering sector was the purchase of new production machinery. This was carried out by 42 percent of ES Census firms (including six case study firms - see Table 6.13).³⁶ Of these firms 21 percent carried out some form of computerisation (three of the case study firms), while less than five per cent indicated introducing either new process technologies, line automation, or some other type of automated machinery linkage. No technological changes were recorded by 36 percent of the firms.

These results were also size related. Only 23 percent of the smallest firms (with fewer than 20 employees) introduced new machinery, and/or computerised, while 52 percent did nothing. Of the 21 firms with more than 250 employees, 75 percent introduced new machinery and 20 percent introduced line automation. The importance of size seems to have waned a little through the 1990s, however.³⁷ As the 1990s have progressed, factors other

³⁴ This was so in the research conducted by Wood (1995) and the NIESR researchers.

³⁵ See survey results reported in Teitel and Thoumi (1994), and Latsch and Robinson (1995 and 1997).

³⁶ Latsch and Robinson note, however, that most of this was to replace worn out equipment, rather than upgrading (1997:18).

³⁷ The correlation between firm size and a technology index, composed of use of computerised technology; average age of capital equipment; and, the introduction of new technology, was slightly higher in 1991, than in 1995 (both in terms of employment and sales). The correlation with size by

than size have become relatively more important to firm dynamism. It is these which are examined in the rest of this section.

Table 6.13 summarises the technical changes stated as introduced by the case study firms.³⁸ Some changes were associated with organisational changes outlined in Section 6.4 above. For example, PUSHCO's changes are part of the KPS changes mentioned earlier.

Some stated reasons for the changes were market-related, including response to competition, adapting to changes in orders and attempting to improve product quality. Unsurprisingly SOLIDCO, QUALCO and MONOPCO were the principal firms citing these causes of change. While SANDCO, DELAYCO and PLASTICO knew of local competitors which had introduced new technologies since ESAP, none cited this as a reason for introducing technical change. All these firms were concerned about controlling costs, which might be an indirect indicator of downward pressure on margins resulting from their competitors' actions.

Table 6.13 - Case Study Firms - Technological Changes 1991-96

Firm	A	B	C	D	E	F	G	H	J	K
Technological Change										
i. reducing/streamlining production stages	x	x						x	x	
ii. energy saving				x			x	x	x	x
iii. capacity stretching			x					x	x	
iv. new tools, dies and fixtures				x		x				
v. new production machinery	x				x	x	x	x		x
ii. new production process		x								x

Source: Survey data

The only change linked specifically to new products is vi.³⁹ New processes are linked to research and development and/or design. For SOLIDCO, the change was mainly an in-house design issue, supplemented by copying from other firms/products. For MONOPCO, it was

employment decreased from 0.41 to 0.33 over the period.

³⁸ Often a single technical change would encompass more than one type, so the best description is chosen.

³⁹ It is not implicitly linked to new products, however. New production processes could have been used only to improve existing products.

adapting technology developed by the parent company for local production. Apart from being technologically more dynamic, SOLIDCO and MONOPCO were also two of three firms adopting export promotion strategies.

The lack of association between technical change and research and development, or even design work, is immediately evident. Most technical change in Zimbabwean engineering was incremental. Such change was not likely to lead to or be associated with radical changes in product mix, or the ratio of the various production inputs. Nonetheless, in seven cases of technical change the desire to increase productivity was cited as a principle cause of the change. PLASTICO's management was clear that it preferred to rely on machines rather than on workers to generate consistent output quality. They wanted to automate where possible. In only one case (firm B) was a licence procured along with the change, which was also the only incidence of new product development being noted as the cause.

Source of advice

Firms not affiliated to local or international groups were more likely to want to conduct their affairs without the involvement of outsiders.⁴⁰

As with the organisational changes, in 70 percent of the technological changes, in-house expertise was the principal source of advice. This was particularly so among the smaller companies, namely SOLIDCO, STATICCO, SANDCO, and RENEWCO. In two cases the firm's in house expertise was supported by equipment suppliers (QUALCO and PLASTICO). Half the firms also received installation and commissioning assistance from suppliers. In three cases this was related to the more complex CNC machinery.

The size correlation is significant here. Many smaller firms were restricted in their ability to introduce newer techniques. In addition to possible skills deficits, this may have been due to concerns about paying others for possibly expensive advice. Larger firms, typically employing a greater range of skills, were more able to interact effectively with potential advice givers. Smaller firms also had difficulty gaining access to certain types of external support. For example, only 25 percent of the smallest firms in the ES Census used foreign

⁴⁰ This is with the exception of the smallest firm.

equipment suppliers and 43 percent used local suppliers.⁴¹ 50 percent of firms with more than 250 workers used the former and only five per cent the latter. Thus, the technological learning value for the economy as a whole is greater from the larger firms.

Relatively few problems were reported by the case study firms with the implementation of technical change, with no problems at all in 57 percent of the cases. The most common problem was worker resistance, cited in five (22 percent) of the cases. In each this was temporary, while workers adapted to the new technology.

Technical Change and Performance

The major performance benefits cited by the production managers following the technical changes were improved productivity and throughput/speed of production. Both were cited by eight firms. Seven firms saw a reduction in rejects in production, but less than half the firms reported reductions in production bottlenecks or machine down-time. With the performance data problems, it is difficult to be more precise than this about the performance impact.

This subsection illustrates the complexity of using firm-based analyses. By no means all firms which attempt to become more market-oriented in the face of increasing competition go about implementing that strategy in the same way. While technological progress has an important role to play in ensuring longer-term product competitiveness and firm growth, there are many constraints on technological change. It is the more continuously dynamic firms like SOLIDCO, QUALCO, PLASTICO and MONOPCO, which seem to have a more positive attitude to using new technology. Of course, this does not indicate why such firms became more dynamic in the first place.

6.5.1.3 Maintenance and trouble-shooting capabilities

While most case study firms have relatively good in-house maintenance capacity, they have done little to develop this further or to move to implementing a more preventative approach to maintenance. As elsewhere, firms prefer to be self-reliant where possible both for routine

⁴¹ The remaining firms did not procure any equipment during 1991-1995.

maintenance and one-off trouble-shooting. There are no sharp distinctions between the firm types, although the growing firms tend to have fewer in-house capabilities on average.

Given the age of much of the capital equipment in use, maintenance capabilities are of major importance to the smooth flow of production in Zimbabwean firms. It is surprising, therefore, that only four firms had established routines for preventative maintenance. The pattern amongst the rest was to fix breakdowns as and when they occurred. Half the firms indicated they would like to upgrade their in-house capabilities. There has been little change in this practise during the post-ESAP period.

A summary of maintenance related characteristics is presented in the following Table.

Table 6.14 - Firm Maintenance Characteristics⁴²

Firm	A	B	C	D	E	F	G	H	J	K
routine for preventative maintenance				x			x		x	x
extent to which can maintain in-house ¹	ii	i	iii	ii	ii	ii	iii	ii	i	iii
average % of machines breaking down in past year	60	40	17	15	20	5	40	480 ²	10	18
days production lost in past year	0	0	25	0	0	0	18	30	180	10
days lost per machine	0	0	0.8	0	0	0	0.2	1.2	0.4	0.3

Note: 1 - i = oiling and replacing accessible items; ii = 1+stripping most machines and replacing standard parts; iii = complete service/repair; 2 - 100% would mean that each machine broke down once per year.

Source: Survey data

The definition of machinery "breakdown" is not necessarily consistent across the firms, which may explain some of the variation. Most of the firms which experienced breakdowns, yet had not lost production during the prior year, either used spare machinery,⁴³ or worked overtime to make up for the lost days. With PLASTICO (H) running non-stop three shifts, its machines came under excessive stress which led to productivity losses. PLASTICO's computerised and automated machinery also requires longer repair time without adequately skilled in-house maintenance capacity.

⁴² It is difficult to rely too much on the breakdown data, as it is not clear that all respondents used the same definition of "breakdown" when responding.

⁴³ Which must have taken time to set up and switch over to.

The firms were asked about their most recent technical problems and how these were solved. The main problems were quality of raw materials and skills-related problems. Materials problems were noticed more by firms trying to improve product quality, such as SOLIDCO (B), PUSHCO (J) and MONOPCO (K). In three cases, imports replaced locally sourced inputs of unreliable quality. As with technology choice aspects, most problems were solved in-house. Many skills problems were also quality related with management finding it difficult to get reliable output. Most firms suggested this issue was resolved by improving supervision and management. Training was not cited in this regard. This mix of skills problems and management-centred solutions was referred to more by the less dynamic firms, such as SANDCO, RENEWCO and DELAYCO. This is a possible indication that management skills inadequacies are at the core of the problems.

Overall, technology has not made a major contribution to firm dynamism or performance. This has not been assisted by the rather isolationist tendencies of many firms. Those firms which re-examined and appraised their technology in use more frequently in the past, have been better able to benefit from the trade liberalisation and to search for more appropriate technological solutions. This ties in with the similar analysis of investment patterns (see Section 6.3).

6.5.2 Case Study Firm Skills Portfolios

This section examines the present composition of the firms' workforce, in terms of its distribution across various levels, to establish the basic pattern of skills distribution across the firms.

This subsection illustrates the wide variety in the stock of skills across the case study firms. By international standards, skills portfolios appear to be relatively weak. There is no relation between firms having higher skills stocks and being the most dynamic or best performers. Nonetheless, there are signs that skills are also relevant.

6.5.2.1 Employment Structure

Table 6.15 shows the percentages of production and total workforces for a number of skills

categories, as reported by the firms.

The ES Census indicated a weak positive correlation between firms with higher skills, defined to include craft and technical skills, and growth in employment. There is no relationship between skills structure and any other performance measure. This seems to be borne out by the case study firms.

Table 6.15 - Skills Breakdown of Firms' Workforce

Firm	C	D	E	F	G	H	K
as % Production Staff							
Unskilled/Semi-skilled	88	57	74	86	65	93	78
Apprentices	2	17	5	0	9	1	3
Artisans	5	17	16	7	20	5	6
Foremen/Supervisors	5	9	5	5	2	1	9
Technicians/Engineers	0	0	0	2	4	0	4
as % Total Staff							
Foremen/Supervisors	4	4	4	2	1	1	7
Managers	1	4	4	4	2	1	4

Source: Survey data

Note: The higher values in each skills area are highlighted in bold type.

Some of the less dynamic firms, including SANDCO, RENEWCO and DELAYCO, have relatively high craft skills on the shop floor. In addition to the artisans, only two of the foremen surveyed had completed apprenticeships. The percentages of the workforce with artisan qualifications in the lower skilled firms, therefore, is very low by international standards (see references in subsection 4.2.5.2 above). The employment of technical level skills (technicians and engineers) appears more closely related to firm size. This is borne out by the ES Census, which shows a 65-70 percent correlation between firm size and employment of graduate engineers, but no correlation between employment size and general manufacturing skills.

Some less dynamic firms (STATICO, DELAYCO and PLASTICO) are sparsely staffed at management and supervisory level. In the cases of STATICO and PLASTICO, the figures do not include the entrepreneurs themselves, however, which increases the management percentages a little. These firm owners are not necessarily actively involved in managing

production on a day-to-day basis.

6.5.2.2 Relative levels of experience

The above static picture suggests little about the quality of those filling the various positions. Through learning by doing, it is possible that longer serving workers had developed higher levels of firm-specific skills. However, younger and shorter-serving workers were likely to have been better educated. This subsection examines the experience gained from the existing job.

In Zimbabwe, there was a distinct pattern to firm tenure, as can be seen from the following table.⁴⁴ Here, there is an obvious tendency for longer established and larger firms to have longer serving employees. In support of the value of learning by doing, the more dynamic firm MONOPCO (K) had the longest serving workers across the sample. The stagnant DELAYCO (G) also had a longer serving workforce.

Table 6.16 - Length of service in firm:

Firm	A	B	C	D	E	F	G	H	J	K
Years with the firm										
0 - 4 (% of workers)	88							53		
4 - 12		73		75	54		47			
>12						56	53		47	79
Mean no. of years	2	7	10	7	9	13	15	7	12	17

Note: STATICCO (firm C) had a very even split across the three categories, with no age cohort having more than 40%
Source: Survey data

SANDCO (D) and RENEWCO (E) are exceptions. In the former case, this is possibly due to some of the longest serving workers having been retrenched. Staff turnover in the year prior to the case study survey was highest for SANDCO and RENEWCO, at over 10 percent. For the other, which provided figures, the average was closer to 6 percent. While the reasons were mixed for SANDCO, in the case of RENEWCO, most of the losses were because workers resigned. Possibly this had something to do with the arrival of the new management team (see subsection 5.6 below).

⁴⁴ To make the table easier to read, entries are only made where the percentages of workers falling into the category are greater than 40 percent.

Semi-skilled workers tended to have been employed for significantly longer than unskilled workers across the sample as a whole.⁴⁵ Without formal qualifications, most workers starting as unqualified workers tended to spend most of their careers as semi-skilled workers.⁴⁶

Jones (1994) finds the average years of experience to be a key influence on firm productivity. This presumably embodies both workers' years in their present firm and their previous experience, although this is not made clear. Here the data are insufficient to make an adequate comparison.

Overall from the evidence presented in this Section, there appears to be very limited association between in-firm experience and firm dynamism or performance. Even firms with a shorter average tenure of seven years are likely to have had workers with a good base of firm-specific skills.

6.5.3 Educational and Experience Backgrounds of Workers

Before they begin work in a new firm, the potential of individual workers has been developed by three broad categories of experience. These are their educational background, pre-work vocational training and previous work experience (with any constituent training which may have been part of that experience). Data were collected in each of these areas, although the duration of vocational training and previous experience was not captured.

Few findings are clear in this subsection. Educational attainment is negatively correlated with length of service for the firm, and is not, therefore, directly related to dynamism or performance. Larger and more dynamic firms tend to recruit better educated workers, without emphasis on previous experience. Yet they employ workers for longer, so this does not show clearly when viewing averages across the firms. What appears more closely related to firm dynamism is the percentage of recruits with post-school vocational training.

⁴⁵ While the mean for unskilled workers was 7.6 years (Standard deviation 6.3), that for semi-skilled was 15.1 (8.7). The means for artisans and foremen were close to 10 years.

⁴⁶ The large number of semi-skilled graded workers employed by MONOPCO, also influenced this pattern.

The Zimbabwean educational system experienced a major reform around the time of independence, as attempts were made to achieve rapid change from racial bias in favour of the minority, to conditions which now favoured the majority. In the rush to expand the scope and scale of post-independence education, quality may have decreased, in the short-term at least, while a new much larger generation of teachers was being trained. The youngest workers, serving for the shortest periods, may now have among the highest levels of education.

While workers' age was not collected in the case study survey, those with less education had been working for longer. The correlation between years in education and years in the job is significant at -0.44, while that between educational qualification and years in the job is -0.56.⁴⁷ Older workers with lower qualifications were less likely to move jobs voluntarily, as they would have had greater problems finding another position. This goes against the view, expressed above, that firms with longer serving workers might be more dynamic.

Table 6.17 - Average Educational Attainment of workers

Firm	A	B	C	D	E	F	G	H	J	K
Average years of schooling	11	9	9	11	10	10	9	8	10	10
% workers attaining higher than junior certificate	88	53	45	75	61	44	40	53	53	42
% workers doing training after school before taking up work ¹	63	36	27	17	23	44	40	21	26	42
% learning at least one technical subject at school ²	100	67	82	75	62	78	73	79	79	71

Note: 1 - This was mostly vocational, but in a few cases was informal, including welding and sculpting; 2 - these include science, metal working, technical drawing, technology and computing.
Source: Survey data

The correlation between qualification and job classification was 0.37. It was weakened by only 36 percent of semi-skilled workers having achieved higher than junior certificate (JC), while 52 percent of unskilled workers had. Due to legal difficulties in dismissing workers,⁴⁸

⁴⁷ 84 percent of those working for more than 12 years have no more than 10 years of schooling, while the same figure for those working for four years or less is 14 percent.

⁴⁸ See Chapters 4 and 7.

established firms have long been unable to upgrade the educational attainments of their existing workforce, as the standard of education improved. Consequently, younger and better educated workers were often blocked from promotion by older, less educated workers.

The more dynamic firms YOUNGCO, SOLIDCO, QUALCO and MONOPCO represented four of the five with the highest percentage of workers with post-school vocational training. The other was the skills-intensive DELAYCO. In analysis of the RPED Ghana data, vocational training was found to be the only type of education with a significant impact on firm productivity (Jones, 1994). This was "despite the fact that workers with vocational training have less total years of schooling" (ibid: 19).⁴⁹ Conversely in Zimbabwe those who had done post-school training spent longer than average in full-time education by 1.4 years, at 10.5 years versus 9.1 years for all workers.⁵⁰

All findings in this subsection are somewhat tenuous. They rely on averaging the background of workers and making imputations from that average about firm performance as a whole.

Management skills are undoubtedly important and in part are likely to be related to the educational background of management (Wood, 1995). Regrettably the data collected on this matter are very tenuous, covering only half the firms. The more dynamic firms SOLIDCO, QUALCO and MONOPCO all have university graduates in scientific disciplines among their management teams, as well as others holding professional qualifications, such as, accountants.⁵¹ Firms YOUNGCO and RENEWCO on the other hand are run by managers holding technical diplomas at Higher National Certificate level.

⁴⁹ Jones' work faced a number of methodological problems. The paper was based on the use of a modified Cobb-Douglas production function employing questionable assumptions, such as constant returns to scale, and which ignores the possible composition effects of different firms employing different mixes of workers at different levels. Nonetheless, she does try to control for the impact of worker effort, unionisation, R&D and product market structure, through the use of dummy variables.

⁵⁰ The mean difference is significant with 99% confidence. This data is likely to include the workers' time in vocational training, for those who completed it on a full time basis, so it need not imply that schooling *per se* was longer.

⁵¹ In another survey three of the top four performing firms had technically skilled managers (Latsch and Robinson, 1997:42).

Limited information is available on previous work experience, as outlined in Table 6.18 below. Larger firms with more highly-skilled workers tend to take workers straight from school and develop their skills themselves, while smaller and less skills intensive firms, such as SOLIDCO, STATICCO and RENEWCO were more likely to take workers who have already gained experience at the appropriate level in other firms.

The number of times that workers have been unemployed is an indicator of the number of jobs they have had before.⁵² SOLIDCO, STATICCO and RENEWCO are among those employing workers with a greater range of previous experience.

Table 6.18 - Work and Unemployment Experience

Firm	A	B	C	D	E	F	G	H	J	K
% workers for whom present job is first	25	0	9	33	23	39	33	37	37	21
% workers joining from another firm at lower level	13	36	9	0	23	21	47	21	21	25
% workers joining from another firm at same level	38	36	46	42	39	33	13	26	11	38
average number of times workers have been unemployed	0.9	1.3	1.4	1.2	1.2	0.8	0.5	1.1	1.1	0.4

Note: 1 - Figures adjusted to average tenure of 10 years for workers across firms
Source: Survey data

The education and experience requirements of firms have risen since independence. Six firms (almost all larger ones) suggested that required educational qualifications had risen in that period. Four (all are 'growing' firms) suggested that required levels of experience had risen. The finding supports the impressions in the above subsections of the relative importance of education to experience across the firms.

⁵² It is not a direct reflection, however, as workers may have moved directly from one job to another, without a period of unemployment in between.

Further confirmation of the pattern emerges from data revealing that the stagnant firms STATICCO and SANDCO required minimum experience qualifications for entry at unskilled and semi-skilled levels and no educational minimum. Both repositioning firms had minimum experience qualification, but specified O levels even for the most junior recruits.

This subsection suggests that studies which take years of education as a proxy for skills are oversimplifying the assumptions dramatically.⁵³ Overall, there are some suggestions of association between workers' backgrounds and firm performance and dynamism, but it appears that what happens to the workers once they join the firms is of greater importance.

6.5.4 Training and Skills Development

This subsection examines the firms' stated training policies, the training they provide and the experience of their workers. This is linked to workers' perceptions of their recently acquired skills. Finally, evidence is assembled for the existence of institutional legacies and constraints in the firm-level training sphere.

Overall, it is clear that firm dynamism and higher productivity appear to be associated with greater training efforts. Other considerations, such as the quality of training, the credentials and authority of the trainers and the scope of the training are also revealed as important.

6.5.4.1 Firms' approaches to training

Only the repositioning firms aimed to be active training organisations. They were the only firms to employ training specialists and to have training plans for the whole firm. QUALCO supplemented this with individual training plans for all staff.

There the resemblance ends, as QUALCO offered a narrower range of training. It did not support longer term training of any kind, whether apprenticeships or degrees. It will,

⁵³ This is not to deny the importance of education on skills development and therefore productivity. It is more to suggest that while it may be necessary it is not sufficient. Knight and Sabot (1990) emphasise that the most important benefits of education are that it "allows individuals to develop higher levels of cognitive skills, which are positively related to firm productivity. Workers who are more literate and numerate are more productive" (ibid.:23).

however, refund costs to successful course participants on the commercial side of its operations. MONOPCO provides its staff with a comprehensive range of training opportunities.

In addition to these two firms, managers in two growing firms (SOLIDCO and PUSHCO) also indicated having annual performance reviews for their workers, at which training opportunities were discussed. Cross-referencing this to workers perceptions provides a different picture, however (see Table 6.19). The workers of SOLIDCO and MONOPCO recognised this process far more clearly than those of the firms QUALCO and PUSHCO. In these latter firms, management's intention to have the firm and its workers consider their training priorities on an annual basis is clearly not being effectively achieved.⁵⁴

Table 6.19 - Workers' perceptions of firm training

Firm	A	B	C	D	E	F	G	H	J	K
firm indicates annual worker training review ¹		x				x			x	x
% workers with annual performance review ²	13	64	27	0	39	29	20	16	16	79
% workers discussing training at annual review	0	36	18	0	23	17	13	5	5	42
% of those then doing the training	..	50	50	..	0	67	0	0	50	80
% workers ever discussed training with manager/supervisor	63	82	27	50	77	56	53	21	32	71

Note: 1 - response from managing director; 2 - responses from workers
Source: Survey data

Discussing training, actually undergoing it, and successfully completing it, are all different things. The formal training review process does seem to play a role in ensuring that workers undergo the training discussed.⁵⁵

⁵⁴ There is no correlation between the job level of respondent and those indicating an affirmative response to training discussions.

⁵⁵ While the percentages look satisfactory for the 'formal' firms, apart from MONOPCO, they only reflected one or two workers, which means the reliability of these indicators must be questionable.

Asked whether they had ever discussed training with their supervisors, many more workers gave positive responses, yet overall the pattern was not all that different.⁵⁶ Three firms appear *not* to have encouraged discussions about training, namely STATICCO, PLASTICO and PUSHCO. PUSHCO ostensibly cultivates a learning approach in the firm, alongside its implementation of the KPS system. Yet it was found wanting on implementation.

6.5.4.2 Training experiences

This section provides evidence that an active approach to skills development, through greater volumes of training, appears to be associated with enhanced firm dynamism and higher productivity.

Table 6.20 shows the types of training, which workers said they had been exposed to since joining the firms.⁵⁷ There are possible problems with these data. For example, longer serving workers may only have a poor recollection of the type of training they received when joining the firm.

Of the four firms, the three with the greatest number of workers undergoing formal training, namely SOLIDCO, QUALCO and (especially) MONOPCO, are the firms that emerged above as being the most organised in terms of training, and are among the most dynamic firms.

⁵⁶ In cross-checking to see whether the same workers were those who had discussed training at annual reviews, as at any time, an anomaly emerged. Five of the 49 workers who had had annual reviews suggested that while they had discussed training then, they had not ever discussed training! This provides a limited amount of evidence to support the view that questions were not well understood.

⁵⁷ This table excludes the current apprentices, the percentages of which are shown in Table 6.15. Those who have previously undertaken their apprenticeships though the firms are recorded under 'formal'.

Table 6.20 - Workers' participation in-house training

(% of workers)	Firm	A	B	C	D	E	F	G	H	J	K
none		25	18	18	8	23	6	0	0	5	4
basic educational		25	9	9	0	0	17	13	0	5	29
on-the-job		50	73	82	75	69	72	87	95	95	58
formal ¹		25	36	9	42	31	39	27	11	32	63
% workers whose job classification upgraded since joining firm ¹		57	93	19	100	16	25	31	30	30	22

Note: 1 - includes short-term in-house and external courses and longer-term external training;

Source: survey data

Statistically, there is a significant positive correlation of 0.78 (significant at 4 percent) between the percentage of formally trained workers per firm and productivity as measured by average net output per worker for 1994/95 (and also therefore with average wages/earnings - see 6.6 below). There is no significant correlation between formal training and growth in that productivity indicator.

The above picture says little about the timing or quality of training. Information was supplied by the production managers on the amount of training firms had conducted during the prior twelve months. In most firms this was very limited. Supporting the above impressions, QUALCO and MONOPCO were the only firms which claimed to have provided anything other than on-the-job training to unskilled and semi-skilled workers and artisans. A larger number of firms sent some supervisory staff on external short-course supervisory training.

6.5.4.3 Skills learned

It is difficult to establish a precise link between training volumes, scope and firm performance. Apart from problems inherent in this type of research, this is surely due in part to variations in the quality of training.

Apart from some of the supervisory training and the organisational training conducted by QUALCO and MONOPCO, the training was almost exclusively conducted in-house. Yet again, this reveals the insular nature of most of the firms. Conducting training in-house prevents the firms from extending their ranges of skills. While this may have been

satisfactory in the past, this will not develop the necessary human resources required to enhance firm dynamism, in a more competitive economic environment.

Table 6.21 - Quality of instruction/Skills learned⁵⁸

Firm	A	B	C	D	E	F	G	H	J	K
% on-the-job instruction by worker at same level	25	25	22	11	22	38	15	0	22	7
Firm adopted multi-skilling ¹		x	x			x	x	x	x	x
% learned no new skills	38	55	27	42	54	6	13	26	42	13
% learned new production machinery	25	9	45	50	23	56	47	63	16	54
% learned new maintenance practices	13	9	9	42	0	39	33	26	16	33
% learned new quality control practices	13	18	0	25	8	39	13	5	26	38
Change in semi-skilled workers' skills in last five years ²	+	+	=	=	-	+	=	+	=	+
Change in artisans' skills ²	=	+	-	=	-	+	+	+	+	+
Change in managers' skills ²	+	+	=	=	+	+	+	=	+	+

Note: 1 - response from managing director; 2 - also from MD "-" = declined; "=" = no change; "+" = improved
Source: Survey data

Individual trainees had an awareness of skills acquired in the recent past (in this case 1994 - 96). Managers also had an impression of how skills have changed. Table 6.21 provides indicators regarding these issues.

It is hard to obtain a precise indicator for the quality of instruction. It is possible, however, that although a worker at the same level may be in some sense the best guide, as they are doing the job all the time, they may not have a broader view of how the job fits into the work process as a whole. It is not surprising, therefore, that MONOPCO has one of the lowest figures for same level instruction. QUALCO, however, has the highest, which may call into question the quality of its on-the-job training.

⁵⁸ In addition to the skills indicated in the table, a few workers in QUALCO and MONOPCO also mentioned learning communication skills, as part of the introduction of new organisational methods. One or two other workers mentioned supervisory and management skills, while others mentioned computer skills.

The patterns of newly acquired skills, as reported by workers themselves, especially the use of new machinery, reflects to some extent the pattern of adoption of multi-skilling. On this indicator of quality (i.e. perceptions of skills learned), the repositioning firms again performed best, followed by the higher skill utilising firms, SANDCO and DELAYCO. The exceptions are SOLIDCO and PUSHCO with high percentages of workers claiming that they had learned no new skills. This reinforces concerns about the quality of management of these firms. For SOLIDCO, this was especially problematic as management suggested skills had increased at all major staff levels.

Most firms were reasonably positive about skills improvements, except for STATICCO, SANDCO and RENEWCO. It appears that STATICCO and RENEWCO laboured under the delusion that other firms and institutions should do the training for them, especially the training of apprentices/artisans. Their management respondents were also under the impression that the quality of apprenticeship training elsewhere had declined. While this matter will be taken up in some depth in Chapter 7, here it should be noted that this reaction fits the emerging pattern of the less dynamic firms and managements.

6.5.4.4 Training and skills changes

The repositioning firms (QUALCO and MONOPCO) and several of the growing firms (SOLIDCO, RENEWCO, and PUSHCO) indicated they have introduced new or expanded training programmes during 1991-96. The new programmes included literacy training (MONOPCO), quality training (SOLIDCO and QUALCO), supervisory training (RENEWCO, PUSHCO and MONOPCO) and training alongside organisational changes (QUALCO, PUSHCO and MONOPCO). In general, however, the changes were minor; none of the firms appear to have reorganised their thinking on the types of skills required.⁵⁹

The relatively higher frequency of attendance at formal training courses by workers in QUALCO and MONOPCO tends to support the positive emphasis on organisational training. It is disconcerting, however, that the figures, which were relatively high at 39 percent of

⁵⁹ For Latsch and Robinson, the post-ESAP experience was worse: "training is not an area in which firms have responded to liberalisation ... there is a general lack of interest in increasing investment in human capital" (1997:26).

workers and 63 percent respectively for the two firms, were not higher. At PUSHCO, the KPS introducing firm, the figure of 21 percent is indeed cause for concern.

Multi-skilling and teamwork frequently were introduced together, as workers in teams could have replaced each other or supported each other within their team, as a result of sickness or more intense working periods. SOLIDCO and PUSHCO seemed somewhat vulnerable to doubts around the effectiveness of those changes they had introduced, as their workers did not seem to accord much recognition to skills improvements.

On the technical side, the major relevant change was the introduction of new machinery. There appeared to be little correlation, however, between those firms reporting new machinery as a technical change and those having the higher percentages of workers who acquired relevant new skills.

Looking at productivity improvement, there was some correspondence to productivity improvement measures. SANDCO, for example, which introduced preventative maintenance practices, was also the firm which had the highest improvement in maintenance skills. There appear to be few easily discernable difference between the retrenching firms and non-retrenching firms.

In summary, it emerges that of the more dynamic training firms, the repositioning firms (QUALCO and MONOPCO) appeared to have the better quality of training, while SANDCO and DELAYCO focussed on maintaining their higher skills profiles. The former firms are amongst the more dynamic performers. This demonstrates that it is the ongoing development in scope and quality of skills, rather than the levels of skills employed, which provides a greater linkage with firm dynamism.

6.6 TREATMENT OF WORKERS

This section is the final area of inquiry into the relationship between the characteristics of the case study firms and their behaviour. The objective is to establish whether there are particular aspects of the ways that workers are treated within the firms, which influence the

way that firms in general are performing.

There is an examination of a variety of matters relating to the way that workers are treated in each of the firms. These include the components of total remuneration, including basic wages, monetary and non-monetary benefits; structural influences within the firm, such as the existence of monetary rewards for performance, be they at the individual, or firm level; as well as, the status of the worker.⁶⁰ Performance motivators also include non-wage benefits;⁶¹ performance rewards, like worker of the month and on-duty celebrations for breaking production records; and support for individual worker's training and skill development. Gender issues are not covered, as all except one of the production workers interviewed were male.⁶²

Respect and trust issues within the firm are also examined. Respect includes supervisors allowing workers into their offices and inviting them to sit down. Trust is demonstrated when firms consult workers about changes in firm plans and practices, and provide workers with information about the firm, in terms of costs and other performance indicators.

Many of these matters relate to areas examined above. For example, it is a matter of trust whether in the preparation of and the communication about a corporate plan, workers are consulted. While management may have the skills to prepare a good and well-founded plan, without communication it becomes merely a motivator for management performance. Workers may be able to advance their skills through firm training programmes, but may be highly motivated to pursue their key areas of professional interest through external study. Whether the firm materially supports such worker initiatives, or not, will be likely to impact upon effort in the work place.

The Section also examines variations in collective bargaining structures between workers and management across the firms and the associated relation to firm performance and flexibility. Thus, the extent of unionisation and the role of the union, as well as of the workers'

⁶⁰ Whether permanent, or temporary forms of employment contract.

⁶¹ For example, free or subsidised meals, transport etc..

⁶² The only female was a packer, not a production line worker.

committee are examined. This links to Chapter 7, which analyses how the broader sectoral and industry patterns of labour relations are changing and attempts to explain a number of institutional rigidities observed at that level.

6.6.1 Earnings: influences and impact

The national labour market in Zimbabwe at the time of ESAP had a history of regulation in both employment (numbers employed) and wages. As part of the package of shifts in economic policy, there was a sharp move away from this practice, especially regarding wages, with the stated objective of promoting the interplay of market forces in determining labour market outcomes (see GoZ, 1991).

The interest here lies in establishing to what extent there are rigidities in firm behaviour, which have constrained the response to shifts in the economic policy environment. There is complementary interest in understanding the various changes taking place within the firms and why some changes appear to be associated with improvements in firm performance while others do not.

Unlike in many of the above sections in this chapter, however, in labour markets the inherited constraints are not necessarily negative. A shift to full wage flexibility in a situation of high unemployment, as in Zimbabwe, for example, may lead to reductions in productivity as workers increase shirking and other forms of resistance within existing jobs, but cannot move to other jobs to improve their earnings.

Recent research in South Africa has examined notions of labour market flexibility, under three headings, employment (numerical), functional and wage flexibility (Standing et. al., 1996). Functional flexibility has been examined in the above subsections on work organisation and skills. In this subsection, the focus is on examining whether there are signs of increasing employment flexibility and its impact on wage flexibility. Other factors affecting wage differentials and non-wage remuneration across the case study firms are also examined.

6.6.1.1 Employment

Flexibility here alludes to the ease with which firms can replace their workers, in order to dispense with the services of unproductive or otherwise problematic workers for the firm, and to improve the quality of the workforce by recruiting more skilled or experienced individuals (as opposed to training them from within).

There has been a tendency for the status of workers to become more formalised within firms over time. Across the case study firms in 1996, 13 percent of permanent workers had started as casual workers, while 16 percent started as contract workers.⁶³ While both casual and contract workers had mostly started as unskilled workers, many had been upgraded since joining.⁶⁴

Only four firms (MONOPCO, PLASTICO, RENEWCO and YOUNGCO), admitted to employing casual workers at the time of the survey.⁶⁵ Firms increasing their total number of workers were the only ones which had seen the percentage of casuals increase since 1991. Some retrenching firms had used retrenchments to increase the percentage of contract workers, however. Most firms used casual and contract workers to increase their employment flexibility, as well as to try out workers without having to put them on full probation. This was attested to by the above-mentioned transition rates. The finding supports Velenchik's similar conclusion from analysing the larger sample of firms in the RPED data (1997:756).

On its own the present pattern of employment status across the firms appears to have little correlation with broad performance indicators. However, in SANDCO and DELAYCO about half the interviewed sample had started with those firms as either casual or contract workers, while the proportions for the more dynamic SOLIDCO and QUALCO were around 17-18 percent. MONOPCO had an even lower percentage (13 percent). The implication of

⁶³ Half of those starting as contract workers were now permanently employed. Only one presently employed casual worker was included in the sample, so the figure for casuals would be meaningless.

⁶⁴ There was no clear difference between the development patterns of either group.

⁶⁵ As noted in Chapter 4, casuals were not that popular a source of additional labour in Zimbabwe, since they had to be paid at least twice the minimum wage.

this picture is that the more dynamic firms on average had a better quality recruitment process and a better quality workforce.⁶⁶ Thus, these firms avoided wasting resources on training workers who did not remain with the firms for long.

6.6.1.2 Wages

Workers are motivated by a number of wage related factors. These include: real consumption wages; wage differentials between different groups of workers; and, the possibility of increased wages for increased responsibility and seniority.

Real Wages

Macro-economic and sectoral evidence suggests workers saw substantial declines in real consumption wages after the introduction of ESAP. This followed years of slower wage decline, after the initial post-independence boost (see Chapter 4).

Table 6.22 presents average levels and changes in average real wages. It is difficult to be categorical in making claims around the firm data due to uncertainties about data consistency over time.⁶⁷

There is only a weak link between the observed changes in real wages and firm performance.⁶⁸ The weaker firms were among those with the larger real wage decreases. MONOPCO seemed to be the odd firm, with a larger decline in productivity than in real wages. Much of the data runs counter to the orthodox economic rationale behind the ESAP changes. According to that, firm performance should have improved, partly as a result of unleashed market forces leading to declines in real wages.

⁶⁶ This fits with the observation in Subsection 6.4, that these firms insist on a higher educational attainment amongst new recruits.

⁶⁷ The forms sent to the CSO by the firms were filled in by different individuals in different years. It is clear in a number of cases that there were glaring inconsistencies in the way the forms were completed. Where these are most obvious, limited, well-supported corrections have been made. Where this is not possible, and the figures appear too inconsistent, data have been omitted.

⁶⁸ Given the small sample size, there are no correlations of statistical significance with other leading performance indicators.

The large variation in average real wage changes across firms indicates that the labour market in the sector was not operating on a competitive market-determined basis, even following the ESAP policy changes. The workers' own data, unreliable as these might be, reveal a similarly varied pattern across the firms. Similar differentials in average wage changes were seen between firms from 1986 to 1990.⁶⁹

Table 6.22 - Annual change in average real consumption wages: 1990s⁷⁰

%	Firm	C	D	E	F	G	H	K
Firms' figs. - average growth ⁴		-7.6 ¹	-4.6 ²	-13.6 ³	-4.9 ³	-9.5 ²	0.9 ³	-1.4 ²
Firms' figs. - production workers only		..	0.9	-12.0	2.5	..	-5.0	..
Firms' figs. - non-production workers		..	-17.3	-18.1	-12.1	..	16.3	..
Workers' figs - average growth 1991-1996 ⁵		-7.3	3.5	-3.5	-4.8	5.6	2.1	-5.0
Wkrs' figs - non-promoted only - 1991-1996 ⁵		-7.3	..	-5.9	-5.1	-6.5	1.6	-5.9
Firm average monthly wage (Z\$) - 1994/95 ⁶		1000	3350	1420	5000	2300	1960	5330
Firm production average (Z\$) - 1994/95 ⁶		..	2150	1130	3400	..	1370	..
Worker's average basic wage (Z\$) - 1996 ⁷		830	1960	1570	3160	3210	780	4100
Worker's average total earnings (Z\$) - 1996 ⁸		960	2660	1720	4020	4780	1260	5340

Notes: 1 - from 1991/92 to 1994/95; 2 - from 1990/91 to 1994/95; 3 - from 1989/90 to 1994/95; 4 - Firms' data is from submissions to CSO and is not necessarily constructed on a consistent basis; 5 - workers' data is from workers' survey responses; 6 - 1994/5 prices; 7 - 1996 prices; 8 - ie basic wages, plus overtime and monetary benefits, before deductions
Source: CSO unpublished and Survey data

The higher skills quotient and higher productivity level firms (SANDCO, QUALCO, DELAYCO and MONOPCO) were the higher average payers. Even among the seven firms listed there are correlations of 0.94 and 0.81 (significant at 1 percent and 5 percent respectively) between average wages in 1994/95 and 1996 and net output per worker in 1994/95. The pattern was heavily influenced by the large values for QUALCO and MONOPCO's productivity levels. A fuller explanation for this pattern is developed in the following subsection on differentials.

The general fall in real wages over the period is supported by Velenchik's analysis of RPED

⁶⁹ When average changes ranged from 9.5 percent, average annual increases for MONOPCO to an average decline of 4.1 percent for PLASTICO.

⁷⁰ The figures for the firm averages, include all employee related expenditures, including overtime and all other allowances. The figures for the production workers only do not include all allowances.

data (1997). In trying to explain changing wage patterns, she examines firm differences. Firms may have a higher degree of unionisation, which changes wage patterns. Secondly, firms may pay 'efficiency' wages, the faster growing firms needing to pay larger increases (or reduced decreases) to counter increasingly severe monitoring and incentive problems. Finally, firms may employ a rent-sharing approach, depending on the ability of firms to pay, such that as profits rise, firms "keep government happy" by increasing workers' wages. In Zimbabwe, given the general disregard shown by government for both the interests of private firms and unionised workers, the 'rent-sharing' thesis is implausible. Arguably, the first and the last of these explanations can be reduced, therefore, to the extent that workers in more unionised firms could put greater pressure on firms to share more of their profits (Konings and Walsh, 1994; Teal, 1995). The issue of the impact of unionisation will be examined below.

The 'efficiency wage' thesis is also problematic. For it to hold requires an assumption that employers calculate rationally how much to pay their workers to ensure that they attain a high nutritional status as a result of being paid higher wages. What does seem to be the case is that some firms pay relatively well. These firms have fewer workers resigning. The highest resignation rate of 9 percent between 1995 and 1996 was for RENEWCO, the firm with the largest decline in average real wages.⁷¹ The lowest resignation rate was for PLASTICO, the only firm to raise average real wages (notwithstanding that it pays close to scale minimum).

Wage Differentials

There are two sets of differentials. One is the set implied in Table 6.22, the differential between firms. Underpinning this is the changing differential between the average wages paid per firm and the minimum wage. The second is the differential between workers within the same firm. According to the orthodox expectations, labour market deregulation should narrow both of these to differentials that can only be explained by human resource endowments, which can be valued in the market. This subsection demonstrates that in spite of the changed policies, other factors are more important in explaining these differentials.

⁷¹ This disagrees with Velenchik's (1997) findings.

In part, the differential across firms can be explained by variations in occupational levels employed, as well as differences in experience, education and many other components of an orthodox earnings function.⁷² However, this does not fully account for such differentials, as can be seen by examining the average wages for those with similar occupations, educational levels and years of experience across the firms.

Some examples of these differentials are given in Table 6.23. While the differentials on the occupational basis were large, up to 400%, they were smaller than the differentials on the basis of education and experience (neither of which are controlled for occupation). What is effectively being examined here is a form of earnings function for average workers of each firm, but the pattern indicates clearly that it is not just the level of education, or the occupational level of the worker which influences total earnings. There is clearly a firm-specific effect, which is of greater importance. Velenchik (1996), after a protracted attempt to control for all possible explanations of wage differential, finds a premium, which remains firm specific.

Table 6.23 - Average Total Monthly Earnings: 1996

Firm	A	B	C	D	E	F	G	H	J	K
(\$'000)										
machine operator or welder/assembler	1.0	0.9	1.0	2.0	0.9	2.8	2.3	1.1	1.1	3.4
unskilled & semi-skilled worker	1.0	1.5	0.9	1.8	0.8	2.8	2.3	1.1	1.1	3.3
worker with O' Levels only	1.1	1.6	0.9	3.0	1.5	5.8	4.3	1.2	1.2	6.8
worker with <= 4 years	1.1	..	0.9	2.9	..	5.0	..	1.0	0.9	..

Note: blanks indicate insufficient data to give meaningful response

Source: Survey data

The repositioning firms were paying significant premia to their workers. Lesser premia were also being paid to workers in the two stagnant firms, DELAYCO and SANDCO. The growing firms, were the ones with the lowest relative wages. The exception to this categorisation was STATICCO, which was paying very poorly and performing poorly as well.⁷³

⁷² See Jones (1994) for an example of that type of analysis..

⁷³ It should be recalled that this was the one firm, which was selected as the worst firm in its cluster, as opposed to the others, which were all selected as being the best in their respective groupings.

After 1990, minimum wages were set as a result of a collective bargaining process, on a sectoral basis (see Chapter 7). The lowest agreed grade minimum for the engineering industry in 1995/96 was \$3.28 per hour, at grade A1. In practice virtually all jobs in the industry were graded at a minimum of A2, for which the minimum was \$3.64.⁷⁴ On the basis of a 44 hour week, worked by much of the industry, this gave a basic monthly wage in 1996 of approximately \$640. Firm PLASTICO was the lowest paying, with many workers being paid at the scale minimum. Many other lower paying firms were still paying a premium to their machine operators/welders, with basic average wages of around \$800.

A survey conducted by the NEC (National Employment Council) in 1994, which covered 25 per cent of engineering firms, found that the margin above the scale minimum increased with occupational level.⁷⁵ At A2 level only 23 percent of workers were being paid 30 per cent or more above the scale minimum. At skilled worker class 1 (journeyman) level, this proportion rose to 82 per cent. In the 1996 survey, conducted for this research, the proportion varied across the firms. Taking A3 as the average grade for machine operators and welders, only four firms paid these workers on average more than 30 percent above scale minimum. In the sample surveyed none of the six firms with artisans were paying them less than 30 percent above scale minimum.

The main conclusions to emerge from this subsection, are that two patterns are associated with firm dynamism, in relation to wages. Higher skills firms paid higher wages to all their workers, not just the skilled ones, while lower skills firms paid at or closer to the scale minima for their lower skilled workers, but had higher internal differentials for their few skilled workers. Furthermore, changes in labour market policy under ESAP had relatively little impact on wage flexibility in the metal engineering sector.

6.6.1.3 Other earnings related influences

There was a difference across firms in the margins between basic wage and total earnings.

⁷⁴ See National Employment Council for the Engineering and Iron and Steel Industry (NEC), "Notice of Wage Adjustments, 1995/96", 4.10.95, Harare. This gives the full scale of agreed minimum wages on an hourly basis, for both classes of skilled workers and graded jobs.

⁷⁵ See confidential note from NEC, 1995.

At the average level, this can be seen in Table 6.22 above. It ranged from 10 percent for RENEWCO to 62 percent for PLASTICO. The way that this difference was made up could have had considerable impact on the motivation and stress under which workers were working (as well as on intra-firm wage differentials).

The differences arose from three sources. These include additional wages earned through overtime; benefits with a financial implication, such as medical aid and pensions; and, performance bonuses, such as a monthly or annual bonus payment of some kind. Each of these is examined in turn.

This subsection reinforces the impression gained above, that the repositioning firms treat their workers considerably better than the other firms, while the stagnant firms tend to be worse, at least in terms of overtime.

Hours worked and Overtime

Hours worked on average, as well as overtime hours and earnings, are indicated in Table 6.24. The stagnant firms SANDCO and DELAYCO show relatively high levels of overtime. This is likely to indicate management weakness, or reluctance to take on new staff, having already gone through retrenchment exercises. Workers in those two firms are likely to have been working under greater stress than in other firms, which may account for their relatively poor performance. This assumes, of course, that the overtime data are not simply a reflection of a cyclical or short-term phenomenon.

In South Africa, a recent study concluded that working time arrangements had become quite rigid (Standing et al., 1996:349). There, production workers in metal/engineering firms worked an average of over 23 hours per month overtime in 1995. This compares with the even longer overall average of about 28 hours among the case study firms in Zimbabwe. If this were an established norm in Zimbabwe, there is a strong case for the reduction in the working week introduced in South Africa in 1997.⁷⁶ This would compel firms to consider taking on additional workers, rather than forcing existing workers to work additional hours,

⁷⁶ The *Basic Conditions of Employment Act* 74 of 1997, included a reduction in the normal working week to a maximum of 45 hours with an overtime maximum of ten hours per week.

when they are stressed, tired and not at their most efficient. Many workers have no doubt also become dependent on the considerable overtime wages they earn regularly. Reducing their overtime may lead to demands for higher basic wages in compensation.

Table 6.24 - Hours worked and overtime earned 1996

Firm	A	B	C	D	E	F	G	H	J	K
Average hours worked per day	9	8.3	9	9	9	9	9	8.3	9	8.8
Average monthly overtime hours (prior 3 months)	0	3	14	23	9	9	44	71	39	15
Percentage of respondents working overtime	0	8	36	42	62	33	93	100	79	50
Average overtime earnings per worker as % of basic wage	0	2	12	21	4	6	37	58	19	12
Capacity utilisation (%)	-	-	83	50	60	97	71	100	-	77

Source: Survey data

Other benefits and bonuses

The benefits pattern tends to follow the wages pattern, with higher paying firms also awarding higher *percentage* benefits. Across the ten case study firms, there is a correlation of 0.81 (significant at 1%) between the percentage of benefits and the level of the basic monthly wage.

This may have arisen as a legacy of the wage controls of the 1980s. The set ceilings (as well as floors) were incentives for firms, that wished to pay higher wages, to load some of the extra wages into benefits packages (Kanyenze, 1993). Furthermore, before independence, due to racism or paternalism, higher grade (mostly white) workers were paid higher benefits as well. The legacy of that era was still apparent in the wage structure of the case study firms. Finally, loading the remuneration with benefits meant that employment costs were substantially lower when casual workers were engaged.⁷⁷

⁷⁷ This pattern was also found in South Africa - see Standing et al. (1996:342). The workers' data from the case study firms did not reveal a significant difference between benefits to the contract workers, and to other unskilled workers in the sample. Unskilled workers as a whole seemed to receive considerably fewer benefits than other workers.

6.6.1.4 Other income earning activities

Workers were asked whether they had received any money for tasks performed outside the firm, as well as whether they performed any income earning activities outside the firm.⁷⁸ There is likely to have been a significant underestimation by respondents. With high rates of disappearance of tools and small pieces of equipment from most of the firms, workers found to be doing something akin to their occupation, e.g. welding, in private, would fall under immediate suspicion as to how and where they had procured their equipment. Thus, while it was more likely in principle that in the lower wage firms, more workers were supplementing their income in the evenings and at weekends, they were less likely to admit to it in firms where management displayed greater suspicion and accorded low trust to workers.

There are many additional reasons why responses may have varied. These relate to the workers' particular circumstances, especially the number of dependents and demands resulting from extended family obligations.

This difficulty in interpreting the data manifests itself in a lack of association between responses and firm types. Many workers (at least 43 percent overall) were conducting non-firm commercial activities. Some of these may have been struggling to survive on their primary job earnings. Others may have been using surplus income to accumulate other assets, for example, those related to farming. It was not clear whether the frequency of such 'outside' activities was increasing. Although this requires further research, there is little doubt that while many of the organisational changes in the firms were exerting greater stress, at the same time as managers were expecting more effort for lower real wages, the impact on individual workers was adverse.

6.6.2 Non-financial Performance Motivators

Wage conditions were not the only problem felt by the surveyed workers. When questioned what they liked best about working for their firms, 26 percent of workers said "nothing", and

⁷⁸ A much higher positive response to the latter question was curious, given the similarity of the two questions.

another 17 percent said that they had a job (at all).

A number of non-wage features of the work environment may have had a major impact on workers' incentives, as well as creating an efficient working environment. Some of these pertain to respect and trust, both of which will be examined in the following subsection.

In this subsection, the focus is on rewards and other features of the job situation itself. These include examining allowances for annual, sick and compassionate leave; recognition rewards, like worker of the month/year and in-company performance celebrations; and links back to the responsiveness of the firm to individuals' requests for training. The availability of breaks during the day and subsidised meals also varied. This revealed little additional insight into firm differentiation.

6.6.2.1 Health and Leave

Higher funeral attendance rates may have been seen in some firms than others due to the often-found practise in Zimbabwe of employing many related workers. While there may have been good reasons for this (see Cheater, 1992b), it did mean that larger numbers of workers were likely to be absent for the same funerals. This policy was reported as having been followed by SANDCO, which proved to have among the highest rates of funeral attendance (see Table 6.25).

In all firms, managers suggested that unauthorised absenteeism was minimal, but noted there had been an increase in the numbers of days in which workers were taking sick leave. If there were significant differences between firm averages, this is likely to indicate something about the workplace itself.

There was considerable variation both within and between firms on most indicators in Table 6.25.⁷⁹ As a result the differences are rarely statistically significant. The above impression of higher worker stress in DELAYCO due to the disparity between overtime and capacity utilisation, is reinforced by a number of problems relating to attendance for that firm.

⁷⁹ Data were also collected on frequencies of headaches experienced by workers and numbers of accidents in the workplace. Neither of these indicators revealed anything of significance.

Table 6.25 - Days off and other health matters (per worker) - 1996

Firm	A	B	C	D	E	F	G	H	J	K
average number of funerals attended in last 6 months	1.9	0.5	0.3	1.8	1.2	0.6	1.9	0.8	1.1	0.7
% workers taking sick days in past three months	25	27	36	50	23	33	53	32	37	52
average days annual leave ²	19	20	19	17	19	21	18	17	23	21
average days away from workplace in past year ¹	28	23	23	28	24	24	30	20	29	27

Note: 1 - sum of annualised days sick and funerals (one day assumed per funeral), plus paid leave; 2 - average of estimate by responding workers

Source: Survey data

Although the evidence is not absolutely clear, it appears that at the margin, there may have been a differential impact on productivity as a result of the past treatment of annual leave and health matters. Pressure on workers in the form of limiting annual leave, not allowing them to attend funerals, or take sick leave did not necessarily result in their being more productive.

6.6.2.2 Recognition, rewards and celebrations

This topic has already been discussed under subsection 6.3.1 above, with respect to the relationship between recognition for suggestions made and moves to introduce new management techniques. Awards like worker of the month and year are not only related to the changes in production organisation, however. They can, if well used, be a source of motivation and recognition for outstanding work within the firm. Larger firms, which generally had more reward schemes, appeared to extract some benefit at a collective level. It is not clear in most firms, however, that any award provided a serious work motivator on its own.

There seems to have been little correspondence between the fact that workers in some firms provided responses suggesting they were less happy, and that those firms were less productive or dynamic. Nor does it seem to be the case that most firms' practices changed significantly over the five years after ESAP, except that, if anything, there was a move away from some of the reward schemes by some of the smaller firms.

A better indicator of and link to poorer firm performance is a negative incentive mechanism. Over 20 percent of workers across the firms had put in requests for training which had been turned down. This proportion seems to be better correlated with the stagnant firms, being joined by YOUNGCO, where about 40 per cent of their workers suffered this type of disappointment. It is not clear how this changed over time, as workers tried to improve their skills or their opportunities in an increasingly competitive labour market.

Indeed, the patterns of change in all of these non-income related motivational areas were not clear. The appearance was, however, both in Section 6.5 above and here, that there was no coordination between changes in organisation and technology and the various types of remuneration and reward structures instituted by the firms.

6.6.3 Respect and Trust

In the case study firms being examined, after 16 years of independence, the senior management in each was still predominantly white. Of the interviewees, two of the production managers in two of the larger firms were black, but all the chief executives were white. As observed in Section 6.2 above several indigenous or black owned firms appeared in the ES Census but, with a few notable exceptions, they were at the smallest end of the metals sector. Consequently respect and trust issues would easily be tinged with racial overtones.⁸⁰

6.6.3.1 Matters of respect

Some rough proxy indicators of the extent to which employers respect their employees are given in Table 6.26.

Across all the firms, the frequency of the offer of a chair in the production manager's office rose sharply with job classification, from 34 percent amongst the unskilled workers to 100 percent amongst the foremen and supervisors. There were some firm specific differences as

⁸⁰ A number of management respondents were overtly racist and patronising in their attitudes. A number of worker respondents complained about racism in their firm's management as well. These matters are explored to a limited extent later in the section.

well. For example, in two of the stagnant firms, SANDCO and DELAYCO, a significant number of workers in each case suggested they were not allowed to enter the production manager's office. More than half of these respondents were artisans. A number of others in many of the larger firms said they had never been to the production manager's office.

Table 6.26 - Treatment with respect

Firm	A	B	C	D	E	F	G	H	J	K
% workers offered chairs in production manager's office	63	91	46	33	46	50	47	42	47	50
% workers sharing toilet with supervisor	63	82	64	33	69	39	73	53	95	67
% workers talk to production manager about work problem	25	18	0	17	15	33	7	21	21	17
% workers talk to supervisor/manager about personal problem	38	73	36	25	15	50	27	26	53	71
% taking part in firm sport/social activity in previous year	25	36	36	0	8	61	20	0	58	58

Source: Survey data

The pattern of respect changes depending on the indicator being examined. The firms which appear most frequently in the top four according to each indicator may be regarded as having had relatively high respect for their workers. On this basis SOLIDCO (B), QUALCO (F) and PUSHCO (J) emerged as the best firms, with MONOPCO just behind. These indicators do not merely correspond to the size of the firms.

The firms which introduced the more far-reaching organisational changes, therefore, were also those with better methods of showing respect. It is not clear, however, whether these firms had better respect relations and thus found it easier to introduce the organisational changes, or whether the organisational changes led to an improvement in intra-firm respect. The type of regard for workers which is embodied in higher levels of respect would not appear to be easily changed, so the former sequencing is preferred. It is still not clear, however, how some firms developed these higher respect relations.

A wide number of indicators could be used to establish the extent of trust relations within the firms. For the sake of brevity, two are selected. These pertain to the levels of consultation concerning change which take place within the firm and the provision of information on firm performance (see Table 6.27).

The trust information is linked to the consultation concerning production matters outlined in Section 6.4.1 above and represented in Table 6.27. The picture which emerges here is similar, albeit more alarming in revealing the degree to which the firms *did not* consult and trust their workforce. Omitted from the Table was the complete absence of consultation with workers in any firm on decisions to introduce new technologies. Here, more clearly even than above, unlike QUALCO (F) and MONOPCO (K), SOLIDCO (B) appears as the outstanding firm. This latter firm was not affiliated to a TNC group, and was not particularly large. Its high levels of respect and trust relations perhaps had more to do with the personality and background of the owner and managing director, than anything else.

Table 6.27 - Trust Indicators

Firm	A	B	C	D	E	F	G	H	J	K
% workers having discussed health and safety with manager/ supervisor	100	91	73	67	69	83	80	68	74	79
Firm consults below manager level in corporate planning		x					x			
Firm consults workers in deciding to change production organisation		x						x		
% workers being given regular information on sales	0	55	0	17	15	17	13	9	21	54
% workers being given regular information on labour productivity	38	73	45	33	23	67	20	9	47	75

Source: Survey data

While in all firms workers were aware of more information on labour productivity than on sales, the gap between the two was highest in the repositioning firms. In these latter cases, both firms appeared to be aware that their workers would benefit from access to productivity information. Both firms were working towards the production of up to the minute

information on individual productivity to tie in with requirements of their performance bonus schemes. They were not, however, so imbued with the necessity of letting their workers understand how well the firm was performing financially.⁸¹ The bonus schemes may have served to distract workers further from focusing on firm sales and profitability as a basis for their bargaining strategies.

Overall, it appears firms can be dynamic and perform well with or without good/effective respect and trust relations. Yet, firm specific differences in the patterns of these relations did have behavioural consequences. While the repositioning firms rated higher overall, they did so in ways that were not a threat to management autonomy. SOLIDCO appeared more genuinely inclusive. The 'stagnant' firms tended to have lower rated trust relations. Better performance on these indicators does appear to be a requirement for firms to manage organisational change effectively. Underlying the indicators presented here are the attitudes of employers towards their workers.

6.6.4 Workers' Collective Representation

Chapter 7 explores the efficiency of the workers and firms' representative bodies and how they attempted to respond to changes in economic policy and the macro-environment. This subsection examines the representation of workers at the level of the individual firm and its correspondence with firm behaviour and performance. Overall, there is little evidence revealing any influence of unionisation on firm dynamism and performance.

In bringing about the changes in production organisation and technology examined in the above subsections, management in most firms were of the view that they had consulted with workers, directly or through the workers' committees about the details of implementation (more so for the organisational changes). Management did not consult widely with workers, however, before *deciding* to introduce change. Furthermore, there were no instances of the union having been involved. Indeed the only reference to the union was regarding the resolution of labour disputes, for example, when workers were attempting to gain redress for unfair or wrongful dismissal.

⁸¹ MONOPCO is a public company and its semi-annual sales figures are easily available from the statutory reports the firm must make in the press.

Information on the degree of unionisation of the case study firms, as well as worker committee representation is presented in Table 6.28. The table shows a considerable range in the degree of union penetration between firms.⁸²

The percentage of unskilled, semi-skilled workers and foremen/supervisors who were union members was significantly higher at over 60 percent, than the percentage of artisans (40 percent). With higher union membership among lower skilled workers, membership was lower in firms with higher skills. There appeared to be no tendency for workers to leave the union, as they increased their skills or seniority.

It appears most likely that membership of a union reflected a desire to increase wages. The larger, better paying firms, such as QUALCO, DELAYCO and MONOPCO, were among those with lower proportions of members (see Table 6.28). Indeed, there is a weakly significant negative correlation of -0.65 (significance 0.1) between the level of unionisation in 1996 and average total earnings per worker per firm.⁸³ There is a similar correlation with average growth in real wages during the 1990s.

Across the sample of workers, at all job classification levels, union members earned somewhat less than non-members. For most job classifications, there were no significant differences between the mean wages of union members and non-members, with only the semi-skilled workers non-members having a significantly higher wage at a 7 percent significance level (according to t-tests).

Workers' committees played a vital role in internal firm communication, with respondents in most firms citing the workers' committee as the main source of information about the changing plans for the firm. The suggestion that there may have been conflicts between the

⁸² Furthermore, it shows a much higher level of membership than that shown by the union's own records. This could mean that there was an over-representation of union members among those surveyed, despite efforts to ensure randomness. Alternatively, it could mean that, while from the union viewpoint those not paying dues were no longer considered members after some time, the individual workers still considered themselves members.

⁸³ Although this is partly explained by occupational structures, due to some firms paying higher than others for the same skill level/position, the correlation between unionisation rate and job classification across the firms is not significant.

union and workers' committees is not supported by the data⁸⁴. Union members were more likely to be members of the workers' committee, with 33 percent of union members also workers' committee members, while only 19 percent of non-union members were on workers' committees. Nonetheless, the workers' committee may have achieved prominence at the expense of the union.

Table 6.28 - Union and Workers Committee Membership - 1996

Firm	A	B	C	D	E	F	G	H	J	K
% workers who are now members of the union	38	82	91	50	77	56	53	47	63	38
% other workers who were previously members of the union	38	9	0	17	0	33	34	18	0	25
NEWU estimate of % union membership ²	..	95	27	47	44	..	4	19	57	..
% workers taking part in industrial action	0	0	18	0	92	6	33	11	21	38
% respondents who are members of the workers committee	.. ¹	46	36	42	46	17	27	21	21	21

Note: 1 - Firm A is so small it does not have a workers' committee. The managing director talks directly to all workers in an open meeting when needs arise; 2 - taken from NEWU computerised membership records (Jan 1996) - see note in Chapter 3 above

Source: Survey data

The weakness of the union at firm level is further endorsed by the lack of association between the percentages of workers having engaged in industrial action and union membership. In all cases the incidents were relatively minor and mostly happened some time ago.⁸⁵ While fewer than 10 percent of workers starting with their present firm during the prior four years had been involved in such activities, almost half of those working for more than 18 years had been involved.

The main question of interest here is whether there was any influence on firm dynamism and performance to be found in the degree of unionisation. The correlation between unionisation

⁸⁴ See Chapter 4 and 7.

⁸⁵ The most recent incidents, within the previous three years, involved protests about non-payment of bonuses. Workers in RENEWCO were upset that management would not address them to explain why they were not being given a bonus. Workers were locked in the plant and eventually the police were called in by management and broke up the demonstration. In DELAYCO, some workers refused to attend a long service awards ceremony and downed tools at their machines for a few hours.

and productivity as measured by average net output per worker is -0.67 (significance 0.1). This is the corollary of the positive association between wage and productivity levels shown in 6.6.1.2 above. It appears that due to the limited strength and influence of the union, it was difficult for workers to push for higher wages in low productivity firms.

Moll's (1993) work on South Africa in the 1980s revealed a significant union-wage effect, especially for unskilled workers in the form of wage compression across skill levels, which was also similar to patterns observed in the advanced capitalist countries. In Zimbabwe, under the post-ESAP regulations the unions negotiated the minimum wage for each sector, which then became legally binding on all registered firms. Indicative of the union's weakness, firms which were more unionised did not exhibit higher wage increases.

There is a hint of a positive association between the extent of unionisation and dynamism as reflected by growth in both gross and net output productivity indicators of the case study firms during the 1990s, although these are of no statistical significance. From the ES Census, the only correlations of significance are weak indicators of negative association between higher percentages of unionisation and slower growth in sales and employment. This might relate to the connection between high unionisation with lower wage-lower skill firms, which are less dynamic and are therefore growing more slowly. This pattern was not borne out by the case studies, however.

In summary, differing degrees of union membership in firms do not appear to exert a major constraint or influence on performance or on the ability of firms to change and adapt to change. Most probably this is explained by the weakness of the union. This is explored further in the following chapter.

6.7 CONCLUSIONS - PUTTING THE FIRMS TOGETHER

In this section, two of the core themes of this research are addressed. By examining the structural and behavioural characteristics of each firm holistically, an attempt is made to understand how institutional inheritances and legacies affect individual firms differently, constraining some from changing and yet facilitating change in others. The next step is to

understand how different changes adopted by the firms have affected their performance. Subsequently, in the conclusion to the whole thesis (Chapter 8), this assessment becomes part of an examination of lessons to be learnt, from Zimbabwe's experience, about the response of firms to the type of changes in economic policy brought in under ESAP.

ESAP was predicated on the belief, in keeping with its underlying orthodox theoretical perspective, that years of protection and a controlled economic policy framework had led to the development of largely uncompetitive and inefficient manufacturing industries in Zimbabwe. A number of studies had suggested that not all industries were totally inefficient and beyond hope (including World Bank 1987, 1990).⁸⁶ With the right policies in place they would thrive. Under a programme of market oriented economic policy shifts, even relatively efficient firms would be encouraged to become more so. The swift opening up of the economy under ESAP was expected, therefore, to lead to a rapid and significant process of change in Zimbabwean industries.

This chapter has revealed how the case study firms fared in the period after ESAP was introduced. Some firms appeared hardly to notice changes in their economic environment, while others attempted to transform themselves. Characteristics, such as age, size, skills, and product types were mixed across the firms. One evident characteristic, however, is that the most dynamic repositioning firms were both subsidiaries of trans-national corporations (TNCs). Furthermore, the existence of close ties to foreign firms does not have the same impact on introducing and managing change as actual participation in the TNC structure itself.⁸⁷

The behavioural changes have had varying impacts. The results have not always been in line with what was intended by the firms' owners and managers, and the performance impact has not always been beneficial. In part, this is due to the persistence of a number of institutional legacies. These have constrained and guided the actions of firms in much more complex ways than those predicted by orthodox theory, with its simplistic behavioural assumptions.

⁸⁶ See critiques of these studies in Chapter 4.

⁸⁷ DELAYCO, for example, had licenses for local production or joint ventures with foreign firms in the past.

Resistance to change appears from a number of internal sources, including managers who are used to certain practices, which may involve directive, if not dictatorial, relations with their subordinates and who may resent shifting to types of organisation where they are expected to consult and listen to the same workers. Workers may resist changes which increase their stress levels or reduce their opportunities to take breaks, without increasing remuneration.

The greater dynamism of some firms appears to be related, in part, to the nature of internal agency within firms' ownership and control structures, as outlined in Section 6.3. Such explanations provide only a motivational basis for dynamism, however. Managers and firms then need specific capabilities to be able to effect changes successfully. It is evident that the reasons that some firms are more or less dynamic are complex. This means that an examination of relative price changes and crude firm efficiencies, for example, in terms of domestic resource costs, is not an effective basis for any estimate of which firms are going to make a more dynamic effort to survive and grow, following the changes in their economic environment.

While it appears the stunted firms were mostly interested in corporate survival, it is not clear that they had any idea how to achieve this. So, they battened down to face the storm of increased competition, with minimal investment and a lack of new product development. There is no easy answer as to why these firm were less dynamic than the others. In part it seems to be due to a lack of serious commitment and enthusiasm for sorting out the problems of the business in a more proactive and positive manner. Again, this appears to be related to the nature of agency in individual firms. STATICO for example, has directors who are physically removed from the site of production and seem to have other interests, which may be more rewarding and remunerative. The lack of dynamism also seems related to other structural characteristics, for example, the respective management teams' level of education, experience and amount of training.

6.7.1 Changes in Firm Behaviour

From the evidence it seems that, in terms of the extent of change they are implementing, together with the more effective implementation of those changes, the more dynamic firms are not necessarily those which employ the highest skill levels or are the best trainers. They

do, however, tend to maintain more successful respect and trust relations within the firm and also have better paid and motivated workers.

Generally, there was a lack of technological solutions adopted by firms implementing cost-cutting strategies. The repositioning firms employed higher percentages of workers with post-school vocational training. They were also the most organised firms in their approaches to training. They put far higher percentages of their workers through formal courses, than other firms did. A number of firms, including both repositioning firms, introduced a comprehensive package of changes, including many NMTs (see Section 6.4). The repositioning firms, which were larger and had greater access to external sources of advice through their international groups, were more successful at implementing these changes.

6.7.2 Performance Outcomes

It is not clear yet whether the change oriented, dynamic firms performed better after ESAP. Indeed, it is difficult to know when is the right time to appraise the impact of changes in firm behaviour. Without sound counterfactuals, which are problematic to construct, it is doubtful whether such an analysis can ever be convincingly conclusive.

For example, the outcome of the organisational changes was uncertain. In a number of firms, such changes served to expose workers to further stress. For example, MONOPCO removed a layer of supervisors and increased the supervisory and quality control responsibilities of its remaining production workers. While these workers were being paid well above the industry minimums, and the rates offered by most other firms, there was no compensating increase in wages for the new responsibilities.

The growing and repositioning firms, in many cases, saw productivity dip relatively after the introduction of changed practices. The greater the changes in a firm, the greater the likelihood of significant short-run costs. However, the retrenchment and down-sizing of the repositioning firms, painful as it was to the particular workers involved, may be less worrying if those firms become able to grow and develop more in the future. As a result, this research placed greater emphasis on firm dynamism, than short-term improvements in performance.

There is no support from the data for any conclusion that the reduction of real wages, one of the corner-stones of the structural adjustment approach, had a beneficial impact on performance. Despite evidence of wage flexibility in the labour market as a whole, some firms continued to pay higher wages. Indeed, those firms which paid more highly and which offered a range of supporting rewards, including more training and better respect and trust relations, were among the most dynamic firms. While the highest productivity firms were among the higher payers, the lower paying firms had higher measured productivity growth in the post ESAP years. However, this was partly due to the impact of retrenchments. At the same time, the firms with the largest falls in real wages (although not necessarily the lowest paying), were also among the firms with the steepest declines in productivity.

6.7.3. Explanations of the Differences

The major strategic and behavioural differences were between the growing and repositioning firms and the stunted firms. The latter firms were less prepared (and able) to confront the need to change and constructively revise their approach to the businesses they are in. They were among the firms doing less training; where skills improved less; and, where there was less consultation between the workers and their supervisors on the technical side. These differences are not obviously related to differences in performance.

There is no linear relationship that can easily detect the best from the worst firms. There appeared to be something more pessimistic and resigned in the management attitudes in the stunted firms than the others. It is not clear that this was a primary cause of the lack of dynamism, however. It may have been a consequence, rather, of the lack of change in those firms, in the face of changes in the wider economy, and a feeling that they were falling behind. Inadequate information was available to link this point specifically to the capacities of the management teams, although it does appear that the stunted firms were among those with smaller management teams proportionately, who perform only moderately on various management capacity indicators. Over all, the 'stunted' firms lacked any sense of distinction. They were not the best at anything.

For the core argument of the thesis, it is sufficient to note that there were substantial structural and historical differences between firms, which influenced the various approaches

taken by firms after 1990/91. Consequently, it was a far more complex myriad of interacting factors than relative price shifts and the tradeability of different product segments, that influenced which firms were likely to adapt to and survive the recent shifts in economic policy. The behavioural assumptions underlying the policy changes are not evident in the patterns of behaviour actually observed in the case study firms.

Finally, the value of the typology of firms in explaining the situation of firms is examined. It seems that while there are many reasons why firms of each type are differentiated from one another within the groups, the typology does provide a way of indicating that some firms are changing in a more dynamic way and performing better than others. Explanations can then be built around that pattern, rather than on a purely firm specific basis.

Firms, once located within a particular type, are not doomed to be there for ever. It is quite likely that at certain times in the earlier lives of the 'stunted' firms, they would have fitted into one of the other categories. What is of great interest is how firms change over time and shift from one category to another. Managers and owners, who are wholly committed to their firms one day, may be distracted by more lucrative or rewarding activities elsewhere the next. In order to explain this complexity more fully, more detailed case study research into the histories of individual firms and capitalists would be required.

7. THE DYNAMICS OF NON-FIRM INSTITUTIONS

7.1 INTRODUCTION

This chapter analyses changes in public and private organisational support for industrial development during the five years following the introduction of ESAP. Lessons from the East Asian countries and elsewhere (see Chapter 2 above), point to the importance of competent organisational support for industrial development. This can assist firms in their efforts to develop export markets, access new technologies and increase their skills base. Much of the relevant literature, however, is not clear about the determinants of such organisations' capabilities and how to strengthen them in situations where they are weak. One way of addressing this question is to examine in detail the dynamic determinants of the relative effectiveness of organisations supporting industrial development.

It is also suggested that having active and responsive unions and employers' organisations may assist in setting better standards across sectors and in promoting better respect and trust relations within firms. From the firm case studies, these emerge as important influences on corporate success (to varying degrees - see Section 6.5). There are arguments in favour of 'voice' regulation, as a way of avoiding the excesses of either government or market regulation. "The institutions of Voice Regulation must be inclusive in character and they must be balanced." (Standing et. al., 1996:10). Accordingly, there is a detailed investigation of changes in labour market institutions, to establish in which way they have changed and whether their effectiveness has improved.

Industrial 'support' organisations do not exist independently from their members or clients. Member and client involvement with, and responsiveness to, organisations will affect how strong the organisations become and how well they perform. It is argued that the legacy or inheritance from the closed economy era was a set of generally incompetent or weak organisations. They were, for the most part, poorly integrated with industry itself and unresponsive to firms' needs. The reasons for this relate in part to the competence and capacities of the staff of the organisations themselves.

Such observations merely beg questions about why organisations were not more effective or more developed. As noted above, there was an entrenched distrust of outsiders by many firms' managers and owners. Capitalists and managers preferred to continue operating as virtual islands and were not particularly interested in seeking (or receiving) outside assistance. Even if the capitalists and managers were, the capacity of local organisations was doubted; the former would rather have received support from foreign organisations. As a result, capitalists' commitment to involvement in lobbying for improvements in their trading conditions varied considerably. In part this was a legacy of the secretive pre-independence sanctions-busting era, and in part a continuing, racist distrust of the former post-independence black 'socialist' government and its agencies, despite its new market orientation. This 'culture' spread to the support organisations themselves, which were also poorly integrated with each other, especially across from private to public sectors, but also within each sector.

The government, for its part, failed to devise an approach to promoting industrial development. The adoption of market oriented policies was used as an excuse to do very little, especially for existing firms. Much of the promotional effort focussed on assisting the creation of new SMEs. There was a failure to understand that efficient markets do not simply come into being on their own, but need to be actively nurtured and guided. Strategies to build effective market enhancing institutions were not agreed upon or implemented.

In the labour relations field, government's focus was somewhat different. Creating and enhancing effective organisations, including both trade unions and employers organisations, was not seen as a way of either promoting voice regulation for improved bargaining, or for improved productivity and industrial development. Here government, for a variety of reasons had been interventionist during the 1980s (see Chapter 4). The post-ESAP picture was one of government ostensibly trying to reduce its role, and yet, covertly, still maintaining its influential position for reasons that had nothing to do with industrial development. Strong organisations outside the government sphere were not established.

7.2 THE INDUSTRIAL POLICY FRAMEWORK IN THE 1990s

This section traces the evolution of implicit and explicit industrial policy stances adopted by the various governments since UDI. There had been no specific, documented industrial policy prior to ESAP. Later, there were difficulties in arriving at an agreed policy document. Even where policy pronouncements were proposed by the Ministry of Industry and Commerce, little attention was paid to developing implementable guidelines, especially on the organisational front. This in turn is related to the lack of cohesion and coherence in policy formulation between various ministries.

Examining various policy drafts and documents provides a useful backdrop for the subsequent sections' analyses of the roles and effectiveness of various supporting organisations.

7.2.1 Documented Industrial Policy Prior to ESAP

Although there was strong emphasis in many policy pronouncements on the primacy of industrial development in national policy priorities after UDI, an industrial policy document *per se* was never produced. In 1969, Mussett, then Minister of Commerce and Industry suggested that the policy was one of "selective assistance designed to encourage those industries which seemed likely to make a net addition to national income" (1969:8). Measures such as import control were only to be used temporarily "to protect our balance of payments position in an economic war" (*ibid.*:12).

By and large, this approach guided industrial development up to the time of independence. The ongoing and increasing severity of the balance of payments constraint caused import and other controls to become long established and well entrenched. In turn, this, together with the close co-operation between government and industrial capitalists (see Chapter 4), made it politically easier for the latter to ensure the continuation and preservation of such measures.

After independence the new government wanted to intervene in production, in order to remove the structure from white colonial domination. The Transitional National Development Plan (TNDP - 1982) was poorly implemented for several reasons: ambivalence

towards the extent of control which should be exerted over white business interests; pressures in support of the existing system from within industry; and, the lack of experience and expertise of recently incoming post-independence public servants. Among the unimplemented commitments were the "formation and implementation of an industrial strategy for the sector"; the promotion of greater forward and backward linkages; the promotion of labour intensive technologies (ibid.:72); and, the creation of an "effective relationship and machinery for cooperation between Government and the private sector" (ibid.:27).

By the publication of the First Five Year National Development Plan in 1986, mention of an industrial strategy had disappeared, as had mention of the need to cooperate effectively with the private sector. In keeping with the more self-reliant ideological approach of the time, stronger emphasis was placed on reducing import dependence through the establishment of new intermediate and capital goods industries. Again, few plans were implemented. Practical efforts focussed on the severe foreign exchange constraint, with exports again receiving the most active support, through the introduction of the Export Bonus Scheme in late 1987.

From 1987 onwards, there are reports of struggles over the direction of industrial policy in the context of debates about the broader policy shifts culminating in the introduction of ESAP.¹ The then Minister of Industry and Technology and his Permanent Secretary were among the main supporters of government taking a leading and active role in promoting a self-reliant and integrated approach to industrialisation. For example, the latter was the initiator of plans for a government-run foundry industry training centre, in order to broaden the scope of local skills development (see Section 7.4). The interventionist approach became increasingly marginalised through the late 1980s, however, as government embarked on a major retreat from the implications of its 'socialist' rhetoric (see Chapter 4).

7.2.2 Industrial Policy Implications of ESAP

The ESAP document *A Framework for Economic Reform (1991-95)*, has no Sections dealing specifically with the needs of industry, apart from a short section on informal and small scale

¹ See Skalnes (1995:130-2) and interview note, 12 January, 1996.

enterprises. No references were made to measures directly in support of the development of any particular industries. Trade liberalisation was seen as the major policy change which, by being phased in with the initial lifting of trade restrictions on first raw materials and finally on consumer goods, was to ensure that consumer goods industries "restructure and become competitive within five years." (GoZ, 1991a:10).

Organisationally, few innovations were suggested. The Zimbabwe Investment Centre was established to expedite investment approvals and adopt a promotional role. Apart from this, and some organisational support for the development of SMEs, the implication emerges that industrial adjustment was to take place as a result of the impact of unleashing market forces, without government or other organisations playing an active supporting role.

The Second Five Year National Development Plan (SFYNDP) (GoZ, 1991b) put some flesh on the implications of the shifts in economic policy for the manufacturing sector. This document, which like its predecessors was largely ignored in terms of policy implementation, ended up as a hybrid extension of its predecessor, with a continuing emphasis on the development of capital goods, metals and chemicals industries, albeit on the basis of comparative advantage (ibid.:38-41). New foreign investment in comparative advantage determined industries, in particular in downstream processing activities, was expected to further the process of import substitution, as well as to fuel export growth.

It is not clear, however, how this growth in particular industries was to be achieved. Wording such as "this (chemicals) sub-sector will be encouraged to expand" and the "capital goods sector will be further developed" (ibid.:41) lead to the question of how this was to be achieved. A few organisational support measures were proposed in the Plan (and not implemented). As with the ESAP document, the reader is left with the impression that the market would lead to the proposed outcomes. Moreover, the contradiction between the SFYNDP proposals and the orthodox macro policy shifts helps explain why there was so little implementation.

7.2.3 Post-ESAP Industrial Policy Development

With the changes introduced by ESAP, the Ministry of Industry and Commerce (MIC) now

found itself stripped of many of its traditional controlling functions. A process was set in motion in the early 1990s to produce an industrial policy or strategy document. This initiated a series of drafts and redrafts. By 1997, at least five had been produced. A final document has still to be approved.² By briefly examining the evolution of these drafts, the process of policy determination can be illuminated. This provides a background to the subsequent examination of the changes experienced by various organisations involved with and supporting industrial development.

The first available draft³ used the SFYNDP as its launchpad. In addition, it pointed out that given the highly concentrated structure of Zimbabwean industry "industrial policy in the period ahead will have to concern itself with the promotion of a more competitive environment including reducing barriers to entry." (p.6). This included reference to the establishment of a Monopolies Commission.⁴ Like the SFYNDP, the first draft was a hybrid of calls for increased private sector activity and government direction and support, aimed at priority sectors. No reference was made to any organisational framework within which government and the private sector would take on their new or amended roles more effectively. In a reiteration of the TNDP, a "meaningful dialogue" with the private sector on policy priorities was called for. Although, "[t]o avoid the "them and us" type of approach the representatives of industrialists would need to be carefully selected ..." (p.25). While seeking greater consultation, the government wanted to control representation from the private sector.

A second draft was prepared by a UNIDO consultant in early 1994. A version of this, amended by the Ministry of Industry and Commerce, reveals a clearer shift away from the interventionist remnants of the earlier draft. A two track strategy was mooted for dealing separately with the needs of medium to large firms (MLIs) and micro and small industries (MSIs). The former were to have their fate decided by "market forces with a minimum of

² The document was among the first to be discussed by the newly proposed Zimbabwe Economic Consultative Forum - see footnote 17.

³ The draft is undated, but from its context and references, it must have been written during 1992/3.

⁴ A *Study of Monopolies and Competition Policy in Zimbabwe* was prepared by a consultancy firm, Implementing Policy Change, in 1992. This formed an important input into the Competition Bill, published in 1995, which provided the framework for the formation of an Industry and Trade Competition Commission. The Bill was criticized by the ZCTU as being premature, since there was no "clearly defined non-ambiguous competition policy" (1995a:6).

targeted policy measures" (p.26), while the latter were envisaged as the source of job creation and said to require more targeted and supportive interventions. The former were seen as likely to update their equipment simply in response the changed incentive structure. That was expected to improve their productivity and profitability, without creating large numbers of new jobs. Hence the need for MSIs to provide new employment opportunities. The earlier draft's mention of targeting particular sectors is all but dropped in the second draft.

A further draft was prepared following consultations within and outside government - although not full public consultation. Representing a broader range of interests following the consultations, the third draft restored some of the contradictory character of the first draft.

Ministry of Industry and Commerce (MIC) officials suggested these delays were not of critical importance, as they were proceeding with policy implementation, anyway.⁵ This was misleading. Yet, implementation has not stood entirely still during the drafting years. The Scientific and Industrial Research and Development Centre (SIRDC), for example, which was proposed in the first draft, was launched, although this was not the result of actions by the MIC (see next Section). Other policy proposals, however, are still far from seeing the light of day.

Approval *is* important. Examining the drafts, it is clear that there were subtle, but significant shifts from one document to the next. The first draft was imbued with a hangover of the pre-independence, its calls for targeting and supportive interventions. This was significantly reduced in the more orthodox, UNIDO drafted second version. The third draft was an attempt to retrieve something more appropriate to local needs, which led to increasing contradictions.

All the drafts limited their proposals to organisations and programmes within the ambit of influence of the MIC. Consequently, while export promotion was discussed, the role that ZimTrade, the export promotion agency (which falls under the Ministry of Finance) could play was not mentioned. These documents, therefore, could not be used by all agencies of government as a guide in their dealings with industry.

⁵ See interview dated 13 March, 1996.

7.2.4 Assessing the industrial policy process

The slowness in completing a final draft of the document for wider consultation is indicative of several institutional characteristics of the industrial policy process in Zimbabwe. First, throughout the period, the Ministry of Industry and Commerce lacked the experience and skills necessary for policy formulation and strategy development. Secondly, making coherent and credible industrial policies in the face of ESAP macro-economic policy shifts proved problematic. The type of support that could be envisaged for industries was limited, without being directly contradictory to the liberalisation programme and the associated budget cuts. This account also demonstrates how hegemonic the Ministry of Finance (MoF) had become, under the amended policy regime. Policy making in other line Ministries became increasingly constrained.

Overall, the fractious nature of the governing institutions in Zimbabwe becomes apparent. There were many inter-ministerial rivalries and contests for policy prominence. In the wake of the economic policy shifts, ministries other than the Ministry of Finance were struggling to find their feet and carve out policy space and effective roles for themselves.

These factors combine into the resulting lack of coordination of industrial related matters across government. While the MIC recognised the need for more active and supportive government and public agencies, it lacked the power to push through an appropriate industrial policy around which all of government could rally.

7.3 POST-ESAP CHANGES IN THE ORGANISATIONAL FRAMEWORK SUPPORTING INDUSTRIAL DEVELOPMENT

Those organisations pre-dating ESAP faced constraints on and rigidities in their own ability to adapt to the policy changes, given their particular histories. Newly established organisations faced constraints of a different kind, as they sought to carve out their roles and functions and attain effectiveness.

Due to the particular balance of class forces in Zimbabwe, there was considerable suspicion of any organisations outside their firm on the part of many managers and capitalists. Such suspicion and doubt were mainly directed towards government and, to a slightly lesser extent, its affiliates. Government organisations were unable to develop levels of effectiveness and professionalism fast enough to persuade a sceptical public of their competence and the need for cooperation. The institutional pattern thus tended to reproduce itself.

The sections following this present detailed examinations of how the organisational framework, in the areas of skills development and labour relations, has been adapting. This section, briefly examines changes in relevant government, quasi-government, business and science and technology organisations.

7.3.1 Government

The macro policy framework was ostensibly designed to favour efficient businesses. Yet, by 1996 businesses had not yet become efficient and needed nurturing to do so. The supporting organisations acted as if they knew how best to nurture, in a directive manner. However, they did not, and they were not linked to industry in a meaningful way to learn how to perform their roles and functions better.

Relevant government organisations include various economic ministries, the Ministry of Industry and Commerce and Ministry of Finance, as well as the Ministries of Higher Education and Labour. While the Ministry of National Affairs, Employment Creation and Cooperatives endeavours to support the informal sector and micro and small industries, it has no focus on larger firms and will not be examined further here. Here the focus is on the MIC.

The second draft of the industrial policy included suggestions for improving the analytical capacity of the MIC. It should be in a position to assess the impacts of relevant changing international and regional trends and disseminate the analysis to local firms. The Ministry should also assist firms searching for detailed organisational and technological information, either directly, or indirectly through, for example, business associations. With many industrial support activities being carried out through autonomous agencies, such as the Industrial Development Corporation (IDC), the Ministry also has to monitor and coordinate

those agencies more effectively.

Other suggestions were for the MIC to take on directly or to supervise a number of directly supportive functions. One example is the improvement of sub-contracting linkages between large and small firms.

All such functions require considerable capacity within the Ministry, in areas where it has had little experience. In addressing its need to develop new capacities, the Ministry enlisted the assistance of donors. By late 1995, however, it had only got as far as developing a mission statement. This statement, based on earlier work conducted by external consultants, was generalised, vague and premised on the passive government role implicit in the ESAP programme. It read as follows:

To formulate policies providing advice and guidance in order to promote the development of Zimbabwe's industrial and commercial sectors by balancing the interests of the business community, the consumer and Government so as to effect a self-sustaining, vibrant and internationally competitive economy. This will be achieved by means of relevant professional expertise, skills and information systems. (quoted in ILO, 1995:8)

The relevant division of the Ministry was that of Enterprise Development and Consumer Affairs. The main function of this division was the establishment of "an economically enabling environment for business, entrepreneurs and consumers ... with particular attention to the promotion of small and medium scale enterprise and greater indigenisation of the economy." (ibid.:9).

Apart from policy formulation, the Ministry's primary role was that of information provision. The major focus of attention was to be SMEs and indigenisation. In a subsequent review of the functional implications of the mission statement, the ILO report added a more active role for the MIC in developing strategies and programmes for enterprise development, as well as coordinating those programmes. This implies, nonetheless, that no substantive active role was envisaged for the Ministry in providing support for existing medium and large industries (MLIs). This is in keeping with the implications of the industrial policy drafts reviewed above.

Notwithstanding the limited role envisaged for the MIC, the ILO report assessed a number of "competency gaps" in the skills set of the senior Ministry staff. These included a lack of work experience outside the Government, in enterprises; a lack of staff with higher degrees; and, a lack of background in policy planning, formulation and research. With low staff turnover, many of the present senior staff obtained their work experience managing the control and allocation programmes of the pre-ESAP era. Evidence of the inadequacies is given by the contradictory nature of the industrial policy drafts, as well as the very poor standard of the *Manufacturing Sector Review* compiled by MIC research staff (MIC, 1996). Furthermore, there was no plan in place to address these serious deficiencies (ILO, 1995:21). By mid-1996 a programme to this end was beginning to get underway, with support from USAID. A further indicator of limited capabilities in the MIC is the time it took for the ministry to begin tackling its problems.

To be effective the MIC needs to be able to lobby within government for industry's interests. The failure of the MIC to slow the liberalisation programme in 1992-94 indicates its lack of 'voice' within government. There were delays in finalising a major tariff revision exercise between 1995 and 1997, including a false start which was hastily withdrawn in mid-1996. This was yet another example of capacity constraints. These incidents indicate the lack of serious attention given to industrial issues at the highest levels within government.

Finally, alongside the shifts in economic policy, there was a disintegration of intra-governmental cooperation, especially between the MIC and MoF. During the period when various committees were in place, including those for control of foreign exchange allocations and new projects, there had been regular exchanges across government about the fate of particular industries. By 1996, it was reported that even the inter-ministerial Economic Coordinating Committee was meeting increasingly irregularly and that regular quarterly meetings between the MIC and MoF has ceased some three years earlier.⁶ The removal of controls also led to the loss of a valuable source of information about firm and trade performance. As a result, the MIC started to move in the direction of becoming more self

⁶ See interview, 1 July, 1996.

sufficient in information collection, industrial surveys and even investment promotion.⁷

7.3.2 Quasi-Government Affiliates

Despite the lack of an approved industrial policy, the economic policy shifts resulted in some organisational change and innovation. Attempts were made to support certain industrial development activities, as part of the restructuring programme. The need to encourage exports led to the establishment of ZimTrade in 1992, funded by a 0.01 per cent surcharge on exports. Investment regulation was centralised under the Zimbabwe Investment Centre (ZIC), which subsequently dropped the regulatory function and has evolved into an investment promotion agency. Although established in principle in 1989, it only became effective operationally in 1993.

The following accounts indicate some of the problems of establishing new organisations. They also illustrate the difficulties of attempting to promote industry in the absence of coherent and well communicated industrial policies. Here the influence of the past is not the institutional inflexibility of the organisations, but the environment into which they are thrown and within which they are attempting to carve out a performance niche.

ZimTrade

ZimTrade saw itself as supporting exports in two ways. The first was through direct assistance to exporters, through the provision of information about export markets and opportunities. This includes conducting market surveys and research, both for specific sectors as well as for individual firms, on a commercial basis. The organisation also took on a lobbying role on behalf of exporters and potential exporters. For example, ZimTrade was pushing for approval of the industrial policy, to enable Zimbabwean firms to enjoy more support in developing their competitiveness.⁸

⁷ ZIC falls under the responsibility of the Ministry of Finance and was reported to be paying too much attention to promoting FDI and not paying attention to domestic investment (interview, 13 March, 1996).

⁸ Although apart from the need to reduce interest rates, particular policy recommendations were not highlighted (interview with ZimTrade chief executive, 6 June, 1996).

By 1996, limited attention had been given to the metals sector. Efforts were underway in 1996 to get local firms to participate in trade promotion missions to neighbouring countries. 18 firms participated in the first one to Zambia in February 1996. Efforts to take trade missions outside the region were hampered when local firms believed that they would not be able to compete. As a result ZimTrade was starting to bring in international specialists in particular product areas to assess the competitiveness of local products and where improvements would be required. Firms were required to demonstrate their commitment, by undertaking to follow-up on the recommendations, although there was no legal enforcement of this. Firms proved very reluctant to come forward and take advantage of the scheme.⁹

From the case study firms, it is apparent that while three of the firms had some contact with ZimTrade, there had been few if any benefits. In two cases, there were accusations that there had been either poor performance, such as when displays arrived after an exhibition was over, or a lack of follow-up to initial enquiries. The main comments were that staff seemed under-qualified, inexperienced and lacking in sectoral knowledge. Two of the firms which had adopted export drives as part of their strategy changes said they had no support from ZimTrade, although in one case the firm was still awaiting the results of a request for assistance.

The chief executive acknowledged that his staff were still relatively inexperienced. While there was an active training programme for all staff, there had to be a balance, between the training of staff and the performance of work. He was also taking steps to upgrade the profile of the marketing discipline in Zimbabwe, including supporting the recent establishment of the Zimbabwe Institute of Marketing.

While there was some assistance from donor-supported foreign expertise, this was insufficient to ensure that the organisation was able to perform effectively from the outset. Secondly, there were communication problems between the organisation and its clients. Firms felt they were not having their needs effectively met and ZimTrade staff felt they were implementing action programmes, which firms were not responding to. The chief executive

⁹ Interview with ZimTrade official, 30 May 1996.

claimed that smaller family owned firms especially were not interested in new technologies and were resistant to change, especially that suggested by outsiders. With annual reviews of performance by external organisations and an open and participatory management style, it is anticipated that ZimTrade will improve its effectiveness given time. The major problem is that for those firms that are already struggling the time required to improve effectiveness has been too long.

Finally, it is not clear that ZimTrade, any more than the MIC, has capacity, or a central enough political position, to have a serious impact on policy-making. The chief executive of ZimTrade resigned in April 1997, claiming that the Minister of Commerce and Industry and the chairman of the ZimTrade board could no longer work with him.¹⁰ It is possible that in part this was due to his continued frustration at the lack of opportunity for him to have impact at the policy level.

Zimbabwe Investment Centre

ZIC, established for a similar period, has certain features in common with ZimTrade. It is an information resource centre on investment opportunities in Zimbabwe. It also has a policy advisory role on investment related matters. ZIC has a third role, that of investment facilitation.

While ZIC has a primary focus on FDI, since 1995 it has been focussing increasingly on promoting domestic investment. This came about as a result of the need to find more local joint venture partners for foreign investors.¹¹ From the MIC staff views, this shift has not had a strong profile or impact. None of the case study firms reported having had any significant contact with ZIC. It appears that little was done to improve the liaison with existing firms at a detailed enough level to support and promote their own investment plans.

There have been long-standing problems between ZIC and the department of immigration, which continued to present obstacles to work and residence permits for foreign investors.

¹⁰ See *Financial Gazette*, 17 April, 1997.

¹¹ Interview with ZIC, assistant director, 24 July, 1996.

While new institutions like ZIC and ZimTrade were acting on the basis of the new policy framework, older organisations were still staffed with those who were implementing a quite different set of policies during the 1980s. Such officials have not fully adapted to the implications of the policy shifts. Furthermore, in some areas corruption also acts as a constraint. Unless the access to immigration permits, for example, is reportedly eased by side payments, it is lengthy and uncertain.

ZIC, like ZimTrade, has taken on a lobbying role to represent investors' concerns. Its ability to do this successfully depends, as it does with ZimTrade, on its capacity and the receptiveness of the rest of government. MIC staff clearly perceived ZIC as being controlled by the MoF.

One indication of the lack of serious policy priority given to ZIC is its funding situation. With 90 percent of its funding from a direct government grant, ZIC has become increasingly restricted, as government has sought to reduce its budget deficit. Up to 1996, it had experienced difficulty in sourcing other funds, with only 5 percent from sale of publications and services and 5 percent from foreign donors. The constraint put limitations on the flexibility of rewarding staff performance.

7.3.3 Business Organisations

Despite the observed weakness of the government agencies charged with industrial responsibilities, and a policy framework, which implies the retreat of government agencies from direct support to industry, firms were unable to organise themselves collectively to provide alternative forms of support for their growth and development. The business organisations represented particular capitalist constituencies and were more effectively geared to lobbying government for their members, than to providing wide-ranging support for their members' activities.

Serious rivalries existed between various representative organisations, limiting their effectiveness. Rejecting long established institutions such as the Confederation of Zimbabwean Industry (CZI) and the Zimbabwe National Chambers of Commerce (ZNCC) as white dominated, a number of indigenous business groups sprung up during the 1990s.

These included the Indigenous Business Development Centre (IBDC) and the Affirmative Action Group (AAG). Since the number of indigenous-owned engineering firms is small, no organisation has yet been established for that industry.¹²

A series of organisations represented capitalists' interests in dealing specifically with labour issues. Indigenous groups interests played no part in these organisations at all. Rival groupings had not been established. While the Employers Confederation of Zimbabwe (EMCOZ) is the national organisation, its engineering sector affiliate is the Engineering Employers Association of Zimbabwe (EEAZ). These organisations will be examined in more depth in Section 7.5 below.

With the removal of the foreign exchange allocation systems administered by the CZI and ZNCC, the two organisations have had to redefine their roles. Change has been managed differently in the two organisations. From the draft industrial policy documents one of the key issues driving change was the identified need to develop a better framework for consultation with the private sector. Evidence of improved openness about policy making emerged in 1995 and 1996. For example, government requested budget inputs from the private sector. The development of the second phase of the structural adjustment programme '*Zimprest*', and the broad national visioning exercise, Zimbabwe Vision 2020, have also involved extensive public consultation.

7.3.4 Science and Technology Organisations

The second draft of the Industrial Policy emphasised the facilitation of technology and quality improvements by the 1993 established Scientific and Industrial Research and Development Centre (SIRDC) and the Standards Association of Zimbabwe (SAZ). Government was to monitor the impacts of technology development and transfer. It was also to provide "institutional support to improve access by industry to ... information" on products and processes¹³. Little has happened in either regard.

¹² These organisations are being studied in some depth by ongoing PhD research into the role of lobbying groups in influencing policy-making - see Taylor (1997).

¹³ See second available draft (1994:33)

No public bodies, either governmental or private sector based, were oriented towards changing production organisation. This appeared to be supported almost entirely by private consulting firms, who attempt to sell the need for such transitions to firms on a commercial basis. Thus, there was no recognition at a public level of a need for any organisational coordination of such activities, nor was there recognition of the value to the public in finding out more about the pattern and impact of such changes.¹⁴

Here again were examples of public supported organisations attempting to direct and support changes in private firms, but finding that firms were not necessarily interested or communicative. Much apathy, if not antipathy, was shown by many capitalists towards organisations directly affiliated to government, whatever their functional area, as well as concerns about such organisations' capacity.¹⁵

Even the SAZ, which had a reasonable reputation with many firms, did not attain a solid enough reputation to achieve its goals.¹⁶ The SAZ could only be effective if local firms sought to produce to standards. Yet, Zimbabwean firms appeared to be reluctant to consider adopting standards for their products and production processes. After considerable time and expense the two case study firms giving the issue some consideration were still uncertain about the value to be added to their products and operations. Despite the serious effort given to the promotion of standards by the SAZ, with the support of ZimTrade and the CZI, a report in August 1995 concluded that "without a Government lead, new certifications will not happen fast enough to meet the competitive pressures already faced by exporters overseas and by local suppliers in the home market." (Titchener, 1995:2).¹⁷

In the past, the CZI had not supported the decision in 1987 to introduce a standards development levy, which by 1996 was contributing approximately 70 per cent of the SAZ's funding. The CZI had not seen the need for the SAZ and had low expectations from a local

¹⁴ There is also a Department of Technology under the Research Council, which examines patents and other national concerns (interview with MIC official, 1 July, 1996). This was not surveyed.

¹⁵ Noted in various interviews with industrialists. See also Latsch and Robinson (1997:33-34).

¹⁶ Latsch and Robinson's survey highlighted comments that the SAZ was too "passive" in its approach (loc. cit.)

¹⁷ ZimTrade itself has obtained ISO 9001 certification, as an example to others.

organisation.¹⁸ In the closed economy era, this was understandable, as quality was not a consideration for local manufacturers, who had a ready market for whatever they could produce. For those firms focussed on the domestic market in 1995, the legacy of this was ongoing doubt about the role of standards (see Titchener, 1995:10).

Organisations operating in related fields in Zimbabwe behave as rivals. This is perhaps due to a lack of clear-cut national leadership, common purpose and national identity. In this case, the SIRDC perceived the SAZ was threatened by the former's size and resources. The SAZ for its part was concerned that the SIRDC was over-ambitious in its scope. Nonetheless, SIRDC staff sat on SAZ committees and the SAZ was intending to hand over its metrology functions to the SIRDC, as the latter was to have better measuring and testing equipment. If, in future, these organisations could resolve their differences and be more supportive, they would have greater prospects of providing more tangible and needed support to industry.

7.3.5 Collaborative Consultative Initiatives

Some moves to greater consultation were noted in Section 7.3.4 above. However, since private capitalists were so radically split both on commercial/industrial lines and on racial lines, that in some cases they did not communicate at all, it was difficult for them to agree on how to proceed in negotiation with government. Notwithstanding that government may not have been unified in its approach, it tended to remain the more powerful partner in the consultative process. Most business organisations noted that many members were not active in the activities of the association. For example, when surveys were sent out there were few returns. Firms wanted to know what others are up to, but were hesitant to let out much information on their own operations. This reduced the capability of the organisations to be effective partners in government's consultation efforts. In principal, moving towards greater openness and a more formalised approach to consultation depends on the willingness of the various 'social partners' to move ahead together. This in turn depends on improving levels of trust developing between the parties. This has not been in evidence in Zimbabwe, as is shown in the following analysis.

¹⁸ Interview with SAZ Director-general, 13 May 1996.

Efforts have been made to forge a more comprehensive coalition of interests to represent private capital in its dealings with government since independence. The longest established has been the Zimbabwe Association of Business Organisations (ZABO). ZABO does not include indigenous groups. More recently several proposals have been made to establish more all-embracing structures for consultations between government, business groups and other social partners. These have included efforts to establish a Zimbabwe Economic Development Council, which was pushed during 1996 by a broad range of social partners, most particularly the ZNCC and ZCTU. The CZI developed its own proposals for a Zimbabwe Centre for strategic and international studies. A further proposal was made by prominent Zimbabweans associated with non-indigenous firms. Finally, there was a movement from within the labour relations sphere by ZCTU and EMCOZ to establish an institution closely modelled on South Africa's National Economic Development and Labour Council (NEDLAC), under the Ministry of Labour. There was little substantive progress on any of these during the period covered by this research.

Each organisation, especially the membership driven ones, wanted to be the one to have its initiative or proposal established first. Without a clear lead from government, as to which it preferred, an ever increasing number of proposals appeared and competed to establish a centralisation of the consultation process.

By 1996, Government was saying that once business had organised itself, government would participate. Yet, as a result of the confrontation between the older established groupings and the indigenous groups, the business sector could not organise itself. The indigenous groups were demanding shares of existing white businesses and their markets, and were using their hostility to white business as a political lever to further their accumulation strategies.

Proposals were made to government by the established groupings, that they invite all the groups to participate in consultations. In Zimbabwe political executive decisions were only made if the President accepted that these were required. This enabled those close to the top to postpone matters by claiming that it was difficult to arrange meetings with the President. Even when meetings were held, there was no guarantee that a clear-cut decision would be

made.¹⁹

Consultations on Industrial Development: A Case Study

Some valuable insights about the opportunities for and limitations of efforts to promote consultation, as well as problems with social cooperation on industrial matters, emerged as a result of a particular research initiative. The organisations seeking to collaborate, despite their varied constituencies and objectives, were all pursuing more direct input into policy making. Government had been maintaining its aloofness from all possible interested parties, including the quasi-governmental agencies. As can be seen from Section 7.2 above, facilitating access to the MIC would not necessarily improve the situation. The ministry was equally excluded from major policy decision making.

None of the above proposed fora intended to focus on industrial development *per se*. In reaction to this perceived deficit, and to witness at first hand some of the problems with coordinating a framework for industrial development, during 1995/96 the researcher became involved in assisting an initiative to bring various social partners in industrial development together.

A number of organisations were interested in being part of this initiative. These included the ZNCC, CZI, ZIC, ZimTrade, EMCOZ and the ZCTU. The level of commitment varied. CZI and ZimTrade played a very minor key role. It appears that this was so for the former, because the initiative was perceived as being driven by ZNCC. It was decided by these groups not to invite the indigenous groups or government to participate at that early stage, until the conception was clear and a plan was in place. It was felt that the indigenous groups would try to disrupt the initiative, or seek to control it. It was feared that government might block the programme.

The immediate goal was to convene a forum or seminar to review common goals and objectives for industrial policy. The seminar was to examine industrial problems and

¹⁹ The Zimbabwe Economic Consultative Forum (ZECF) was finally launched on 9 July 1997, with all the competing groups involved. Its first meeting took place in January 1998 (*Zimbabwe Independent*, 23 January, 1998).

constraints. It was also to examine how to move forward pragmatically to improve communication and cooperation between the various organisations involved in developing Zimbabwean industry. Securing finance proved problematic. Partner organisations were insufficiently committed to fully fund the proposal themselves. Donors were concerned about disruption by excluded groups and wanted to be sure that government was fully committed to the process.

7.4 SKILLS DEVELOPMENT ORGANISATIONS - CAPACITIES AND CONSTRAINTS

This section examines the changing organisational structure of higher education and vocational training, in particular highlighting attempts to respond to the changing needs of the engineering sector. This comprises examination of firstly the control and funding structures, secondly the administrative structures within the Ministry of Higher Education, and thirdly the training organisations themselves. The training organisations are presented as a case study of a small sample of organisations.

7.4.1 The Changing Structure of Higher Technical Education and Skills Development

During the 1980s there was a change in the focus of vocational training, with greater emphasis on formal institutional training, complementing traditional apprenticeship structures (see Chapter 4). This led to the creation of a number of new technical training organisations. There was also a rapid increase in the number of students at university level. The polytechnics and other government vocational training centres (VTCs), geared towards craft qualifications, fell under the Ministry of Higher Education (MHE). The Ministry also housed the registries of apprentices and skilled workers. The universities fell under the more autonomous National Council of Higher Education, which was responsible to the same Minister.

The number of private vocational training organisations increased during the 1990s, although in a recent survey, only one of these was directly relevant to the engineering industry; training motor mechanics (see Bennell, 1997).

According to the *Manpower Planning and Development Act*, 1994, the tri-partite National Manpower Advisory Council (NAMACO)'s main functions are:

"on its own initiative or at the request of the Minister, to investigate and make recommendations to the Minister *on any matter* affecting national manpower development and training ..." (p. 173 - emphasis added).

Previously, from 1984, its role had been limited to that of overseeing and advising on the collection and allocation of the manpower development levy (1% of all firms' wage bills) by the Zimbabwe Manpower Development Fund (ZIMDEF). The extension of NAMACO's role signalled a move away from the situation where the government made decisions about manpower development with little external consultation.

7.4.2 Manpower Development: Control, Consultation and Funding

NAMACO provided an opportunity to examine the workings of a tri-partite (government, labour and business) structure in action. The Council of NAMACO was drawn from the public sector, business and labour organisations, as well as technical and training experts. NAMACO also had a number of sub-committees dealing with the needs of particular economic sectors.

This subsection reveals the time it took to shift attitudes away from a centrally controlled system, where every decision had to be referred up the line, to a system where individuals clearly understood the limits of their authority and were held properly accountable. Consequently, the centre of the system, albeit a weakened one, retained an influential and powerful position for some time after the strategy had shifted. Associated with this, industry representatives participating in the consultative structures were poorly motivated, and consequently did not perform well, nor did they consult widely within their own sectors and colleagues.

The second draft of the Industrial Policy contained suggestions that the funds raised by the training levy be redirected towards "a demand driven programme, managed under the responsibility of a given business association, where large companies would provide training,

facilities, equipment and instructors, and develop in the process a solid network of future sub-contractors." (1994:51). In the third draft, while this concept disappeared, there were calls for greater involvement of the private sector in determining the use of ZIMDEF funds. This shift reflected the demands of industrial capitalists. As a concession to such interests, NAMACO's responsibilities were broadened in the mid-1990s.

According to the Manpower Planning and Development Act, ZIMDEF funds are intended to be used to rebate firms sending workers on approved training programmes for designated trades²⁰, or taking on apprentices, and to provide grants to employers and training institutions for manpower development programmes.²¹

Changing Strategy

During the 1980s, NAMACO members were appointed by government from those it knew would be sympathetic to its control over ZIMDEF. After 1990, NAMACO members were nominated by the constituencies represented. While this improved the level, breadth and openness of discussion, it did not change the control over the funds. The Minister continued to intervene and allocated a good percentage of ZIMDEF funds to the MHE for the purchase of equipment for public training institutions and training institution running costs (Raftopoulos, 1994:7). These financial diversions were in response to severe fiscal constraints experienced under ESAP and concomitant efforts to control government's direct spending. Government effectively turned the manpower development levy into an additional form of taxation. Capitalists, who perceived limited benefits would arise from many of the public training organisations, would rather have had rebates for training they could influence directly. As an example of government's increased responsiveness to public concerns, expressed through NAMACO, by 1994, the percentage of ZIMDEF expenditure on capital items had fallen to 18 percent.

²⁰ Trades are designated by government for rebates and official recognition as crafts, when they are seen to benefit industry, in some manner.

²¹ See "Approved Training Eligible for ZIMDEF Rebates", circular letter no.1, 1993, to employers, Ministry of Higher Education.

Problems arising from the diversion of funds came to the surface in 1996, with, *inter alia*, controversy over the purchase of inappropriate and expensive equipment for various technical colleges, which was not being utilised.²² This resulted in part from the adoption of a more decentralised approach by the MHE to control over the training organisations, implemented after 1992. This was mainly aimed at giving principals greater control over recruitment and the courses they taught. The implementation of this change has suffered from a hesitancy on the part of some principals to take on extra responsibilities, while others have taken it too far (as shown by the equipment problems).

One of the reasons for the emergence of equipment problems was that the MHE's budget had reportedly been curbed over a long period. This meant demands for replacement equipment and improvements had built up over a long period.²³

Many of the Council members felt the post-1994 NAMACO was still too limited in its responsibilities to be effective. Proposals were being developed in 1996 for the Council to be upgraded to a statutory authority, while its members become the trustees of ZIMDEF.

In addition, the 1995 NAMACO Congress argued that there was a strong need to improve coordination and information flows between industry, training institutions and the relevant ministry, despite the improvements introduced under the 1994 Manpower Development Act. Furthermore, despite the reportedly reduced politicisation of NAMACO membership, the trade union movement was excluded from the Council in 1995.²⁴ Their failure to nominate delegates reflects trade union capacity problems and a lack of focus, as much as it reflects relations between the trade unions and government or business.

Capacity

NAMACO had little institutional capacity of its own. Another reason for the statutory authority proposal was the need for capacity to conduct its own investigations. In 1996, it

²² See *Zimbabwe Independent*, 31 May, 1996.

²³ See interview with past Chairman of NAMACO, 28 May, 1996.

²⁴ See interview, 16 July, 1996.

was still dependent on the MHE for its information and human resources. While the MHE and NAMACO had a vision of improving the provision of manpower information as the basis for decision-making, there were serious data collection and availability problems (see below). Government surveys tended to elicit poor response rates from capitalists. Furthermore, the reliability of the data submitted would be questionable. NAMACO and ZIMDEF had small secretariats, which lacked capacity to carry out surveys of this nature.

Nonetheless, substantial financial resources existed which could have financed such work being done by independent contractors.²⁵ The amount of money required to fund a system of regular research and surveys would have been a fraction of that spent on programmes whose efficiency was probably limited because of data insufficiency.

Instead industrial sectors were urged to carry out their own studies. This met with limited success. The computer industry was one of the few sectors to study the supply of and demand for professionals in 1994, as a basis for surveying manpower development needs. At the end of 1995, NAMACO urged its sectoral committees to develop manpower surveys for their industries.²⁶ It was not clear at the time of the field research how many sectors would respond positively to this, but it was suspected it would be a limited number.

NAMACO's sectoral sub-committees had even less capacity. By 1996, the mechanical engineering committee had made no moves to adopt the above recommendation. The committee's minutes showed that meetings were frequently postponed. At those meetings which were held, members were frequently absent. Items tended to stay on the agenda for a long time without being resolved. Possibly, this had to do with the lack of sense of reward for contributions made, either in terms of professional recognition, or in terms of remuneration for time and effort.

Concerns were also expressed about the technical capabilities of NAMACO committee members to address skills development matters.²⁷ With respect to the trade testing

²⁵ This did not appear to have been thought of. Instead, the funds were spent as above, or invested in property development (*Zimbabwe Independent*, 18 July, 1997).

²⁶ See NAMACO's end of year report, 1995.

²⁷ See interviews with NAMACO official, 16 June 1996, and GTZ advisor to MHE, 4 July, 1996.

committees, the unions had demanded equal representation with business, but only attained one representative per committee. This favoured a strongly technocratic attitude, which was likely to reflect the interests of the business members of the committees. Involving the unions would have enabled their officials to gain an improved understanding of skills issues, which they could bring to bear in collective bargaining.

The NAMACO sub-committees were also fairly small. For mechanical engineering, there were representatives from only five firms. Reflecting the poor communication structures prevalent within the private sector, the interests of any committee were likely to be determined by those of its industry representatives. There appeared to be a failure in most segments of the engineering sector to achieve mutual in-depth consultation about skills development issues. The substantive items on the agenda of the mechanical engineering committee in April 1996 reflected the interests of three of the five member firms, and *no* others. Some respondents stated they had withdrawn from the committee's work, as a result of both feelings of futility and its narrow and parochial scope.

Furthermore, firms tended to be represented by personnel or technical managers. Chief executives, who might have had a sense of the broader picture, rarely participated. This applied to participation in NAMACO, as well as the boards of training organisations.

7.4.3 Manpower Development - Administration

Given the lack of institutional capacity within NAMACO and its committees, technical training was still managed by the MHE. Greater emphasis on capitalists driving patterns of development put MHE officials on the defensive. Staff hid their own failure to develop appropriate skills to manage skills development behind accusations of racist or paternalist attitudes on the parts of white capitalists and managers. Equally, white capitalists often *were* racist in their attitude towards the possibility that black people might be capable of running efficient organisations. The success of the changes was dependent on the development of increased trust across the government, non-government divide; on the evidence of this section, this was not happening.

Business had been complaining for a long time that the post-independence, administratively centralised vocational training institutions had produced a low standard of certified skills. A number of owners and managers reported recruiting individuals on the basis of certification, yet finding the worker knew little about skill areas for which s/he was certified. Consequently, workers who had completed government institutional training often found it difficult to secure employment at the level for which they were certified. In many cases, they had to agree to complete an apprenticeship or further training period within the firm. It was to address such problems that a decision was taken to establish industry-controlled trade testing centres.

Firm managers and owners had other problems with the existing system. The institutional training path followed a non-work oriented path to skills development. Individuals saw themselves as students rather than workers, unlike traditional apprentices. When such students were on company attachments, their attitude to work and discipline was frequently reported as poor. Firms, not regarding those on attachment as employees, were reluctant to incorporate them fully in the work routines of the firm. The value students gained from short periods of work exposure was, thus, strictly limited.

Following ESAP, however, the MHE increasingly saw itself as attempting to take a more open attitude to private sector views.²⁸ This included taking NAMACO more seriously on a broader range of matters and following up on its recommendations, as noted above. While some positive progress was perceived from the MHE side, a feeling remained that the private sector was not specific enough in its demands in terms of number of trainees required and type of skills.²⁹ Some MHE officials perceived that the mainly white capitalists and managers were not prepared to accept that the quality of training post-independence *could* be good enough to satisfy them. A highly defensive attitude was pervasive among public officials, who perceived a hangover from the past in sceptical attitudes about and a lack of trust in government's intentions coming from the private sector.

²⁸ See interview with Deputy Director, MHE, 5 June 1996.

²⁹ Senior MHE officials professed ignorance of why capitalists were unhappy with the levels of technical skills available (interview, 5 June, 1996).

In spite of these reservations, progress was made. For example, following the suggestion by many employers that the theoretical content of the institutional training for engineering disciplines was relatively high, MHE officials were in the process of reviewing the curricula.

Another strategic change was a move to greater rationality in the preparation of plans and policies. In 1991, the first four year Human Resource Development Plan was developed. In 1994, this was evaluated (see below). The experience fed into a more systemised approach being used for the next plan. The first plan had not been available for public consultation before being approved. The new spirit of participation and greater openness towards involving private businesses led to a decision to discuss the draft of the second plan through NAMACO structures.³⁰

Capacity

In NAMACO's 1995 end of year report it was noted that there were "serious performance deficiencies within the department of Research and Planning in the Ministry of Higher Education" (1995:2). It was noted above that NAMACO did not have capacity to carry out its own surveys. Manpower needs analysis had not been conducted by the MHE on a regular basis. MHE officials explained that the curtailing of annual manpower reviews was due to the lack of response to the annual questionnaires sent to private firms.³¹ The review had been stopped in 1986.

In the early to mid-1990s, efforts were being made to improve the MHE's capacity; to carry out more frequent and more comprehensive surveys; and, to develop a computerised database of manpower development needs. One specific capacity problem mentioned by MHE staff was their high staff turnover rates. This was ascribed to the central administration of public service careers. At any time, a high percentage of staff were likely to be inexperienced. It was not established whether this enforced amateurism existed throughout government, or was an indication of the relatively low priority given to building up capabilities in particular areas of government.

³⁰ This was ongoing during 1996.

³¹ Interview, 30 May, 1996.

An outside observer, closely linked to the MHE, noted that staff retention was not a problem and many MHE staff had enjoyed promotion within the ministry.³² The key problem was the *ad hoc* way in which ministry staff were being trained.

Physical resource problems existed across the Ministry of Higher Education. For example, the Registrar of Apprentices could not provide information on different classes of apprentices, as his department lacked information systems to process the data.³³ A request submitted some years earlier to ZIMDEF for computers, had not been supported.

The evaluation of the 1991-1995 *Human Resources Development Plan* (HRDP), compiled by an in-house team from MHE, revealed a number of capacity related problems. These related both to defects within the plan itself, as well as problems of implementation. Most staff were unaware of the plan; the plan had not been guided by national manpower needs or any other research; and, the plan had excluded most other (i.e. non-MHE) organisations involved in manpower training and development (MHE, 1994:32-36). The plan had also not been effectively monitored or evaluated. It seems clear that the plan had not played a central role in the working life of the Ministry. Consequently, there had been no commitment to its implementation, or adherence to its behavioural parameters. It is not clear why the plan should have been thus marginalised. Possibilities include management staff incompetence, as well as problems with intra-ministry communication. The MHE had only been formed in 1988 from Sections within the Ministries of Labour and Education. More effective development and implementation of the plan could have facilitated and assisted with common new organisational identities.

The intention was to avoid many of the above shortcomings in the preparation of the second plan. In 1996, it did not appear, however, that adequate precautions were being taken to ensure this would be so, although there certainly was more consultation taking place around its preparation.³⁴

³² Interview with head of GTZ office, Harare, 23 July, 1996.

³³ Interview 9 July, 1996.

³⁴ Interview with MHE officials, 12 June, 1996.

7.4.4 Educational and Training Organisations - Case Studies

Three such organisations are briefly examined to assess changes in their strategies and their capacities. These are the mechanical engineering department at the University of Zimbabwe (UZ), which educates people to degree level; the Bulawayo Technical College (BTC), which trains people to artisan, national diploma and higher national diploma level; and, the Westgate Vocational Training Centre, in Bulawayo, which trains people up to artisan level.

The analysis compares and contrasts the changes in these organisations. In this section it can be seen that, while there may be considerable legacies tending to inhibit change, where there are sufficient pent-up demands, change can be achieved relatively quickly and such legacies overcome.

Changing Strategy

There were two major thrusts to the strategic changes introduced by the three organisations during the early to mid-1990s. The first was a greater orientation towards meeting the needs of industry. The second was attempting to increase direct revenue generation by the organisations themselves. Sometimes the two went together, with, for example, the establishment of customised training programmes for firms, which were charged for on a fee basis.

Each organisation had an advisory committee or board, which has representation from a number of local firms (usually between 6 and 10), as well as trade unions in the case of the VTC. In addition, university students were attached to industrial firms to conduct research projects. The polytechnic attempted to expand its use of in-company facilities to conduct training in areas where the polytechnic was short of modern or relevant equipment.

Most firms' desired confidentiality, however, and were reluctant to allow outsiders to observe and participate in their production processes. This constraint has featured elsewhere. Here it led to firms refusing to allow BTC students to use equipment, even outside normal production hours. Moreover, many firms resisted the proposal that university students would write up and publish the findings of their projects.

The push for decentralised revenue raising was directly caused by financial constraints. The university allowed the mechanical engineering department to set up its own account, so that it could receive and utilise its own income, without reference to higher authorities.³⁵ In 1996, the VTC was still trying to attain the same arrangement. It was constrained by the fact that its spending votes were all centrally controlled and that revenues went to the central fiscus.³⁶

Revenue generating activities mostly took the form of either short training courses, or education with production initiatives, where the process of learning or training itself raised revenue by selling products or services. Courses were oriented towards firms, or directly towards members of the public. The VTC was particularly successful at running part-time courses at weekends. These were attended by small scale entrepreneurs, as well as workers, whose firms were not supporting their initiative, wanting to refresh or upgrade their skills. Running such courses outside standard educational or training arrangements allowed lecturers to obtain extra income, when they were able to keep some of the course fees. This helped to motivate staff and compensate them for reductions in their real income.

The final area of notable strategic shift was change in the curriculum. By 1993, most older skilled workers had their skills upgraded through the four-tier trade testing system. VTCs were then asked to train apprentices as well. This was swiftly followed by a shift in the apprentice qualification to the introduction of the National Certificate (NC) programme, as an attempt to standardise the level of skills across all trades. In 1996, the VTC admitted its first contingent of direct entry, institutional training students.

The new curriculum was beset with problems. Some lecturers could not cope with the new teaching requirements, which resulted in increased failure rates. The design of the curriculum placed greater emphasis on mathematics and technology theory, to prepare workers to progress to the technicians' course, the National Diploma (ND). It became evident, however, that not all students wished to progress past becoming qualified journeymen. The qualification was not relevant to their needs. A proposal to make the

³⁵ Interview with chairman of mechanical engineering department, UZ, 22 May, 1996.

³⁶ Interview with principal, Westgate VTC, 13 June, 1996. The University has its own funding arrangements and operates more like a parastatal outside the Ministry's financial votes.

mathematics and technology elements optional was rejected.³⁷ Furthermore, entry requirements for the ND were 5 'O' levels. It was not evident, however, that the best craftsmen are necessarily the most gifted academically. These problems indicate the lack of adequate consultation with both firms and skilled workers prior to the curriculum change. It is another example of a well-intentioned shift in strategy, which was inadequately tested before implementation, by government officials who were rather detached from industry.

As competition increased for scarce jobs at all levels following ESAP, pressure appeared for higher levels of certification from workers who had seen their prospects of retaining employment, or of promotion decline. In response, BTC introduced the Higher National Diploma (HND) in 1996. The engineering department at UZ was also in the process of developing a new master's programme in manufacturing systems and operations management. This was also partly in response to recommendations from industry for more appropriate training.

Competition for jobs has also had the opposite impact. As employers attempted to get more skills for less pay, they assigned higher grade tasks to workers with lower qualifications. According to the Registrar of Skilled Workers, this led to class 1 or 2 skilled workers (the higher grades) seeking re-registration at the lower class 3 to secure employment.³⁸ Firms then expected the workers to work at the higher skills levels but for class 3 pay.

Capacity

There was a clear gap in staffing capacity between the university and the other organisations. All professional staff at the university had higher degrees. Only three of 34 lecturers in the mechanical engineering department at BTC had even undergraduate qualifications.³⁹ Similarly, while almost all the staff at the UZ department had over 5 years' experience in the department, this was only true of four staff members at BTC. Localisation had been achieved fairly successfully in both cases. In 1986, 50 percent of UZ and 32 percent of BTC staff were

³⁷ Interview with GTZ advisor, 4 July, 1996.

³⁸ Interview 28 July, 1996.

³⁹ Similar information was not supplied for the VTC.

expatriates. By 1996, these figures had fallen to 22 percent and 11 percent respectively.

One of the main problems experienced by most technical education organisations was their ability to retain skilled staff. Initiatives were mooted at NAMACO to use ZIMDEF funds to subsidise salaries, as well as to provide housing and car loans.⁴⁰ Nonetheless, under ESAP, staff vacancies at technical and vocational colleges fell from 29 percent in 1990 to 2 percent by 1993, but increased again to 7 percent by 1995.⁴¹ These changes were more to do with reassigning posts, than a reflection of demand for the courses. For example, in 1993, vacancies in mechanical engineering were still at 17 percent. They had mostly disappeared by 1995.

The *HRDP Evaluation Report* raised doubts about staff quality. For example "in some cases, lecturers were teaching a level only slightly below their own qualification" (p.5). Concerns were also expressed in the HRDP about the quality of instructors' training at the Gweru College. Quality was also subject to a constant barrage of criticism from industry. Most firms were not prepared, however, to employ their own trainers to develop their skilled workers.

A GTZ project had supported three training centres, but no finance was made available to replace the donor's funding, which was withdrawn in 1995/96. Budgets became so tight, that even out of order photocopiers could not be repaired.

One way of assessing the quality of the training would have been to assess pass rates at different institutions. There were data availability problems, however.

An example of the problems in moving ahead with training development in the changing social environment in Zimbabwe is given the Foundry Training Centre. This case study neatly encapsulates the nature of the underlying difficulties⁴².

⁴⁰ See NAMACO's end of year report 1994.

⁴¹ See Munetsi and Simango (1994:18) Table 12 and *Statistics on Tertiary Education* (MHE, 1995).

⁴² See appendix 7.1

7.5 UNIONS AND EMPLOYERS' ORGANISATIONS - CAPACITIES AND CONSTRAINTS

7.5.1 Introduction

Bargaining over wages and conditions of service takes place at the sectoral level, so the organisations dealing with the engineering industry are the focus of analysis. In this case, however, the sectoral organisations were considerably weaker than the national ones. Therefore the analysis is set in the context of changes taking place at the national level.

7.5.2 Labour Relations: The Evolving Institutional Framework

This section examines the structure of labour relations in the engineering sector, against a background of recent changes in legislation and regulations, as well as how both of these changed labour relations in practice. Given the increased frequency of firms reducing their labour force under ESAP, particular attention is paid to retrenchment regulations. A picture emerges of a government reluctant to let go of its central role in labour relations matters and, in addition, a lack of capacity in the non-government organisations. In practice, however, government had lost most of its ability to influence events, as shown by its hesitation and inability to intervene effectively to prevent firms from closing, or to save jobs.

Three organisations are the focus of attention. These are the national union, the National Engineering Workers Union (NEWU), the main employers' association in the sector, the Engineering Employers Association of Zimbabwe (EEAZ) and the National Employment Council for the engineering and iron and steel industry (NEC). Wage and other negotiations took place between NEWU and EEAZ under the umbrella of the jointly nominated NEC. The NEC was responsible for assisting its members in any aspect of collective bargaining, or dispute resolution. Disputes that could not be resolved at industry level were referred to the Ministry of Labour and ultimately to the Labour Relations Tribunal (LRT).

Registered companies had to register with the NEC by law and submit regular returns on their number of employees. In addition, the NEC collected union dues from firms, on behalf of NEWU. Thus, the three organisations worked closely on a monthly basis.

The engineering industry's basic collective bargaining arrangement was changed in 1990 (see Chapter 4), as laid down in the industry's collective bargaining agreement.⁴³ SI 282 set out detailed accords on wages, job evaluation, conditions of employment, and the establishment and responsibilities of workers' committees and works councils (worker members to be nominated by and from the workers' committee). This included the specification of a maximum of 72 hours work per week (42 hours on night shifts); overtime to be paid at 150 percent of normal rates and Sunday work at 200 percent; automatic payment of a gratuity for workers working for more than 10 years (reduced to five years in 1995); minimum days of annual leave (15 up to end of first five years and 20 thereafter); and a minimum number of days sick leave per year on full benefits.

After the restoration of sectoral collective bargaining, there were a number of complementary changes that allowed for differential labour relations arrangements across industries. These included changes to the regulations for employment codes of conduct (SI 379). Industries were allowed to agree and register a code of conduct. Codes could also be established by firm level works councils, which effectively meant that individual firms might choose to opt out of the sectoral arrangements. This was relatively rare. Only MONOPCO went this route among the case study firms .

The engineering industry took four years to agree on its code of conduct. This was finally passed as SI 57 of 1994. The code of conduct included disciplinary procedures and outlined procedures for various categories and severity of misconduct. Dismissal could be immediate for serious misconduct, otherwise various stages of procedure were to be followed. Misconduct included such matters as unsatisfactory work performance and indiscipline. Each firm had to have a disciplinary committee of equal numbers of worker and employer representatives. This committee considered internal appeals on disciplinary matters. Appeals then went on to the NEC and ultimately to the LRT.

⁴³ Statutory Instrument (SI) 282.

While this code was a significant move away from the government centred system in operation during the 1980s, most capitalists found difficulty adapting to the new regulations and did not perceive the change as being that significant (see below). Consequently there was little increase in employment flexibility. The emphasis remained on a series of specific procedures to be followed *before* dismissal, as opposed to having a system that was based more on options for recourse *after* a wrongful dismissal, such as in the UK.

Few changes were made to the LRA under the 1992 amendment. The restriction on the number of unions and employers' associations per industry was removed, as was the Minister's discretion over the setting of dues. Scope for ministerial intervention in internal union affairs remained considerable.

Retrenchment

In 1990, retrenchment regulations were also established. These specified in great detail the steps to be followed and documentation required by firms wishing to retrench workers. They provided for the establishment of a National Retrenchment Committee, appointed by the Minister of Labour and including representation from government, employers and trade unions. Retrenchments could be handled in-company through the works council. Only if agreement could not be reached at that level was the matter to be referred to the National Committee.

In an effort to avoid bureaucratic delays, a clause in the retrenchment regulations indicated that if the Retrenchment Committee spent more than two weeks considering matters, the documents should be passed to the Minister (SI 404, 1990: 2278). The Minister would then decide within two weeks. In 1994, the regulations were amended to allow for appeal against the Minister's ruling to the LRT.

The retrenchment rules suggested that retrenching should be avoided if it could be done "without prejudicing the efficient operation of the undertaking in which the employees concerned are employed", and the consequences to employees mitigated as far as possible (ibid.:2279). It was not clear, however, who was to take responsibility for enforcing these matters and how firms were to implement the regulations.

In amendments passed in 1992, it was made more explicit that firms should try to restrict overtime, reassign employees, job-share, rotate unpaid leave and voluntary retirement, before retrenching. The Retrenchment Committee had to be satisfied that the employer had tried his best in exploring alternatives. How that satisfaction was to be arrived at was not clear, which left it open to reliance on the word of the employer himself.

Changes in Sectoral Practice

The legislative and regulatory changes appeared to complement ESAP's shift away from a more directly interventionist and directive style of governance. In practice, the change was less well defined.

The central role of government, rather than being reduced was altered, but essentially maintained. Although the Minister of Labour and the ministry no longer played a central role in *all* decision-making, the Minister still appointed the members of statutory bodies examining labour matters. The LRT was accused of being open to government pressure to prioritise cases.⁴⁴ Ministerial intervention, as well as the limited capacity of the LRT, reportedly contributed to the fact that it became more and more bogged down in its work. Another contributory factor was the absence of any charge for workers bringing appeals to the LRT, so there was nothing to lose for those already dismissed in pursuing a claim.

Many employers suggested that dismissal procedures were still very complicated and problematic in practice.⁴⁵ In part, this was attributed to a lack of comprehensiveness in the list of misconduct actions, as well as ambiguity in the wording of the code of conduct.

Among the case study firms, the most common form of labour relations dispute involved dismissal procedures. Six of the case study firms experienced problems with dismissals during the period following 1990, although none said there had been more than two or three such incidents. In at least half the cases, the core of the problem was incorrect following of procedures by the firms. None of the firms that had retrenched workers suggested that they

⁴⁴ Interview with a labour relations lawyer, 17 July, 1996.

⁴⁵ Various interviews.

had major problems in making the retrenchments. It is not clear how to account for the difference between the experience of dismissals and retrenchment. It is most likely that in the latter case, there were opportunities for negotiation and a neutral framework established for the resolution of disputes. This was less clear in the case of dismissals, and most workers would end up without benefits on dismissal. Despite problems with the code of conduct, and despite the fact that the code was under the control of the sectoral organisations, little serious effort was made to improve it. This is an indicator of the weakness of the sectoral organisations.

The revised procedures still offered considerable protection to workers, as firms had to be able to demonstrate that there was just cause for dismissal. Consequently, supervisors could not use dismissal threats as the major means of imposing discipline among their workforce. Given the results of Chapter 6, firms that attempted to extort hard work from their workforce through threats were unlikely to be the most successful. Firm respondents indicated they would like to be able to dismiss at will, as was the case before 1980. This was unacceptable to the union. With NEWU relatively content with the present code, it was up to employers to organise themselves to bring about pressure for change. Yet, according to one respondent connected to the EEAZ, it was easier for managers and capitalists to blame others, rather than to take responsibility themselves for either changing the code or ensuring that existing procedures were properly followed. Critical explanations as to why employers' organisations were weak are to be found in apathy and a reluctance to get involved.

In practice, because many disputes were continually being referred to government, with its limited capacity, the retrenchment system was much slower than the regulations stipulated. Despite its lack of evident support for workers' interests, government was still seen as a possible saviour, albeit as a last resort. On the occasion of large scale closures, workers and unions gravitated towards the Minister of Labour's offices to seek assistance. Government rhetoric persisted in supporting the illusion,⁴⁶ but the reality that government could offer very little became increasingly evident.

⁴⁶ See "Government told (by Mugabe) to save companies from closing", *Herald*, 22 June, 1996.

7.5.3 The Evolution of National Collective Bargaining in the 1990s

The continuation of government's central role in labour relations is also revealed by its ostensible efforts to move to free collective bargaining after 1990. A provision existed in the 1985 Labour Relations Act for the Minister of Labour to hold up registration of a collective bargaining agreement, if he considered it to be, *inter alia*, "unreasonable or unfair, having regard to the respective rights of the parties" (GoZ, 1985:221). This allowed for either unions or employers to use the Minister as an escape route. The possibility of having recourse to government perpetuated the lack of development of capabilities among unions and employers' associations.

The disengagement of government from collective bargaining proceeded gradually. In 1991, the first year of free collective bargaining, there were still some major interventions. Government first convened a tri-partite meeting on 1 August, 1991 to express fears that high wage increases might undermine ESAP. This was already long after the negotiation process had started and various agreements had been reached (EMCOZ, 1993:5).

Furthermore, government produced regulations later in August 1991, indicating that wage increases should be effective from 1 July 1991 and indicating to whom this was to apply. In a commentary on this, Lloyd (1991), a lawyer and administrative officer for the EEAZ, noted a number of inconsistencies and problems with these regulations. He noted that the regulations referred to the negotiation of incomes, which he took to mean wages, salaries and other allowances and benefits. In a curious relic of a limited bargaining past, he attempted to dismiss the idea that benefits and allowances should be up for negotiation as part of the bargaining process.

The unions attempted to use the new-found freedom of the collective bargaining process to broaden its scope to include benefits. The unions lacked capacity to force this through, against employers who wanted to maintain the narrow wage focus. The unions received little support for their proposal from a "vacillating government" (Dhlakama, 1992:11). With arbitration still having to be referred to the Ministry of Labour, there were long delays in finalising agreements (EMCOZ, 1993:6).

In 1992, despite the harsh drought, there were improvements. Government launched the bargaining season in May, with a meeting of the Wages and Salaries Advisory Board (WSAB), which set broad guidelines for wage adjustments. This resulted in a nation-wide call for wage restraint to save jobs, in the face of high drought induced inflation, which led to a significant decline in real wages (see Chapter 5). In 1993, with the economy still suffering the after-effects of the drought, a similar pattern was repeated. Government's suggestion that wage increments should remain at about half the rate of inflation was generally followed (EMCOZ, 1994a:5). Real wages declined again.

Following these early experiences of free collective bargaining, the WSAB continued to meet on an annual basis, although its prescriptive role slowly diminished. Consequently, the range of collective bargaining outcomes across sectors increased, as industry-specific factors became more important. In 1994, when no guidelines were indicated, settlements ranged from 7.8 per cent in the travel goods industry to 24 percent in the tobacco and cigarette manufacturing business (EMCOZ, 1994a:8). Given the important role that government continued to play, this board could be one route to attempt to broaden the scope of the collective bargaining exercises. Yet, this has not happened.

In 1993, with government perhaps realising it was losing its influence in the labour sphere, there was talk of establishing a formal tri-partite structure to deal with labour relations.⁴⁷ A draft revision to the LRA was circulated incorporating a proposed structure. By 1996, associated with the delays in developing a more general economic consultative forum (see above), this had not led to any formal arrangement emerging. The climate for consultation had improved, however, substantially as a result of joint pressure by the unions and business. Nonetheless, any sense of common interests across the capitalist/worker divide would be likely to break down, if the institutional structure were to be established.

7.5.4 Negotiating the Treatment of Workers in the Engineering Industry

The collective bargaining experience highlights many of the institutional characteristics of the organisations contesting the treatment of workers in the engineering industry. After a

⁴⁷ See article in *Horizon*, August 1995.

review of recent experiences, there is an examination of the changes in strategies, as well as the capacities and constraints of the union, NEWU, and the employers' association, EEAZ.⁴⁸

Weak unions and employers organisations did not have sufficient “voice”, to take the place of earlier government regulation. The sectoral representative organisations were weak, both in their ability to represent the interests of their sectors effectively, as well as in being able to be innovative and break away from the continuing dominant centrality of government in labour relations. While there was a move to market determined outcomes to collective bargaining, the balance of power and influence remained largely with government.

Collective Bargaining in Engineering

The annual wage negotiation process was the core of collective bargaining in the engineering sector. The main negotiations concerned increases in minimum wages. Lower paid workers formed the majority in the industry and dominated the union. Firms were concerned with keeping minimum wages as low as possible (see Chapter 6). The higher the grade of worker, the larger was the average differential above the scale minimum.

If the bargaining process was not resolved between the two negotiating parties, it was referred first to the Ministry of Labour and secondly to the LRT. There was a great incentive to come to an agreement before referral to the LRT, where decisions were frequently delayed by nine months or more. Many engineering sector negotiations became deadlocked during the 1990s, which meant that the labour relations officers in the Ministry of Labour (MoL) were often left to broker the outcomes of collective bargaining.

One legacy of the narrowness of the past system is that productivity and skill issues were consistently ignored. Prior to ESAP, given uncertainties about foreign exchange availability to purchase improved equipment, firms had been reluctant to commit themselves to productivity increases. The continuing problems besetting investment meant this did not change significantly after ESAP. A bad experience with a productivity agreement in the textile industry in 1992/93, which failed to satisfy any of the parties involved, led to other

⁴⁸ The discussion in this Section draws on interviews with NEWU, EEAZ and NEC officials during February to July 1996.

sectors being reluctant to follow the same path.⁴⁹ With the formation of the MHE in 1988, training and skills development were separated from the Ministry of Labour. The MHE was poorly integrated with other ministries (see above), and not well disposed towards improving the involvement of the private sector in public policy. Consequently, consultations on skills and productivity took place through different channels, with NAMACO mostly having a technocratic focus, without participation from the trade unions (see above).

There was some encouragement from the employers' side to reduce the bargaining scope to the minimum wage increase alone. They argued for this in 1991 and again in 1996, but NEWU resisted, insisting that a minimum increase for actual wages was essential, to avoid any erosion of differentials. The EEAZ representative suggested the union was the stronger party in the negotiations as it had a single goal, namely improved wages. Yet, the outcome of bargaining in the 1990s has been a steady decline in the real wages (see Chapter 6). The lack of serious industrial action during 1991-1996, notwithstanding legal restrictions on striking (see GoZ, 1985:233-239), further undermines a view which perceives the unions as relatively strong.

National Engineering Workers Union

NEWU was formed in 1984 as a result of the merger of the General Engineering and Metal Workers Union (the pre-1980 union for general lower skilled workers) and the Zimbabwe Engineering, Iron and Steel Workers Union. The latter was part of the ZANU-sponsored post-independence effort to break down the old order and union structures.

In interviews, NEWU officials were critical of the government's failures to save jobs, or to provide for workers' welfare following company closures. The union still held the view that the key avenue in seeking redress lay in approaching the government. The LRT was seen as too slow and not in a position to make a substantial difference to workers' lives. In a number of cases, the union had approached government to assist in helping workers take over the firm's assets.⁵⁰ No examples were cited of success in gaining government support.

⁴⁹ Interview with EEAZ official, 28 June, 1996.

⁵⁰ Examples include the Industrial Manufacturing Company (1993), Zimbabwe Engineering Co. (1995) and WS Craster (1996).

The immediate question that occurs is why NEWU persisted in these approaches to government? The answer appears to be that the union was too weak to be able to do anything else. The union was better able to assist in supporting workers in-house negotiations with management, for example regarding retrenchment. Nonetheless, the value of that support was questionable. Retrenchment settlements in engineering varied considerably, from nothing, through an industry standard of two weeks pay for every year worked,⁵¹ to flat rate payments of up to 6 months pay.⁵² While works councils had equal voting power between workers and management, NEWU officials considered that management was normally in the more powerful position. Management had all the facts at their disposal and workers often lacked the tools to be able to analyse their firm's financial and market position, beyond what they were told by management.

The union had some successes in bolstering the negotiating position of workers and assisting in finding an alternative to the firm's initial plans, which resulted in job saving. In the case of one firm, this was achieved by finding a buyer for one of a firm's operating divisions, which otherwise would have been closed.

The union's major reported capacity constraints were finance and skills. In response to declining union resources, due to the reduction in the number of workers in the industry and possibly a fall in membership amongst those remaining, the union increased its membership levy from 0.5 percent of wages to 1.0 percent of wages in 1995. Other types of fund raising activities were not very successful. There had been problems associated with lax financial controls. Skills had not been developed due in part to difficulties in funding programmes. In addition, the traditional approach in the union was to recruit and push people who had demonstrated long term commitment to the union, rather than intellect or ability. There was some sense that this was beginning to change during 1996, following the death of the long-standing general secretary. Personal development programmes were being assembled for individual union officials. In part, the drive for this was coming from the ZCTU. Much of the ongoing training effort was aimed at regional and branch officials, training them in grievance handling, mobilisation and collective bargaining.

⁵¹ In about 47 per cent of the recorded cases from 1991-96.

⁵² NEWU unpublished figures.

One indication of the lack of union capacity at the central level, was that NEWU experienced serious leadership problems during the period of the fieldwork. Apart from the demise of the general secretary, his acting replacement was also ill for substantial periods.

A further indicator of the limited capacity was the absence of union publications, apart from the occasional circular. There was a lack of data collection and analysis in the union. While the union has a computerised membership data base, there are reasons for suggesting that it was not entirely reliable and up to date (see Chapter 3). Records on retrenchments were poorly maintained by hand. Information flowed mostly through consultations and discussions within union structures, from the national to the local level. Apart from the annual bargaining cycle, consultation was mostly *ad hoc*.

The most recent strategic change to improve mobilisation efforts was driven by declining membership. By June 1996, it was estimated that total union recruitment since the start of ESAP was greater than the loss due to liquidations and retrenchment. Unfortunately, there were no reliable data to back this up.

Engineering Employers Association of Zimbabwe

At the end of 1995, the Association represented approximately 150 firms, or about a third of the manufacturing firms in the sector (see Chapter 3). This included the majority of the larger firms and eight of the ten case study firms. Many smaller firms were content to leave collective bargaining, and labour relations in general, to the larger firms. Even among the larger members, only a few managers in a handful of firms were at all active. Apart from arguments raised elsewhere that the smaller firms preferred to operate more autonomously, an EEAZ official suggested these firms considered they were unlikely to have much influence. Some firms preferred to save the membership fees, in the hope that the negotiations would take place in any event. For others it was the familiar collective action problem. They would pay the fees to support the organisation, but if the bargaining was taking place in any case, there seems little reason for any particular firm to actively participate.

The EEAZ was a tiny organisation, with a part-time administrator and a secretary. Its activities were focussed on the annual cycle of negotiations. The EEAZ proposals for wage offers were reportedly set at a jovial and social event, in a very *ad hoc* manner.⁵³ This became the employers' first offer. As with the union, there was a lack of information collected and research performed, as a basis for bargaining.

The organisation's strategic changes in the 1990s have largely been reactive to changes in legislation. The one significant area of increased focus has been training. The pioneer of the only substantial private training organisation in the engineering sector, part of the Delta group,⁵⁴ became the President of the EEAZ in 1996, which cemented that broadening of focus. The EEAZ was already being consulted on a number of skills related matters, for example, UZ had sought its assistance in locating industrial placements for its trainees.

One of the key constraints experienced by the organisation, as with NAMACO, was the level of its members' staff attending meetings. Typically, they were personnel managers, who were still compelled to consult their employers to ratify their contributions. As a result, information sent to members would often not reach the most senior man in the firm. Although EEAZ was a membership driven organisation, this diminished the weight of the opinions put forward and the input into the work of the organisation.

National Employment Council

The NEC originally had a mandate to register journeymen, as well as providing support for and monitoring of collective bargaining and the implementation of agreements. With the centralisation of skills development after independence, this function passed to government. This left the NEC with the task of overseeing national labour relations and administering a medical-aid fund for the industry.

⁵³ Interview with EEAZ official, 28 June, 1996.

⁵⁴ The Delta Engineering Training Centre itself had an uneasy and ambivalent relationship with the MHE, which makes another interesting case study (for some background reading - see Titus (1990)). There is insufficient space to explore this in the thesis.

The scope of responsibilities and functions of the NEC did not change after ESAP. The only strategic change was to improve the management of the Secretariat, moving from a largely autocratic style to a more participatory style and improving the training of officials, as part of an effort to enhance its performance.

The organisation was answerable to both the union and employers. As such, the general secretary of the NEC did not consider himself empowered to do anything, except with the instructions of his stakeholders. He felt inhibited as he considered himself to be trapped between the employers and the union. Even the appointment of staff became a political matter. In one instance it took over a year to appoint one of the NEC's field staff.⁵⁵

Government's central role was maintained, in part, due to the lack of enforcement capacity of the NEC. For example, firms were legally obliged to register with the NEC and to pay the sectorally agreed minimum wages. If a firm did not adhere to its sectoral agreements, the monitoring NEC could do little except refer the firm for prosecution. Given capacity problems within the legal system, this could take a long time. Another example is the practice of employing higher grade skilled workers, registered at grades below their expertise, as noted above. Again, the NEC had an inadequate number of designated agents to effectively police these negative trends in the industry.

The NECs are very sector specific as well. In the early 1990s, a forum was proposed for all NECs to consult with each other. This came to nothing. The organisation remained essentially an administrative body which was not provided with professional staff. In the engineering NEC, the only graduate was a woman in charge of the medical aid fund.

The organisation was in an ideal position to assume a range of additional activities to benefit the whole sector. These might have included coordinating skills development programmes (as it had done in the past), and collecting information on working conditions, wages and benefits in the sector on a more regular basis, to feed into the annual bargaining process. In 1996, the NEC lacked the capacity to take on such additional responsibilities. Since the sectoral partners were also very weak, there was no impetus for such a change.

⁵⁵ These were known as 'designated agents'.

7.5.5 The Engineering Industry in a National Context

The same pattern was repeated at national level, albeit to a somewhat lesser extent. As noted above, government, lacking innovative and creative approaches to productivity improvement, effectively and tacitly supported the continuation of the restricted focus of collective bargaining on wage issues alone. The weakness of the ZCTU and EMCOZ and lack of significant moves to strengthen voice regulation, maintained government's prominent role. Nonetheless, over time there was a steady loosening of government's hold on and control over the bargaining system.

Zimbabwe Congress of Trade Unions

The ZCTU was considerably broader in its scope and activities than most of its sectoral affiliates. It supported the latter through negotiating the macro collective bargaining environment, providing guidance to the sectors in collective bargaining and assisting its affiliates in organising to increase their membership.

After 1990, it assumed a broader focus. This included providing an independent voice in representing labour interests at the macro policy level. An example here was the publication of *Beyond ESAP* during 1996, as an alternative framework to government's macro-economic strategy. According to the Secretary General of the ZCTU, this gave the labour movement greater coherence and unity in its views on economic policies.⁵⁶ The capacity in the sectoral affiliates to take the debate further is still very limited, however, which in some ways widens gaps between the centre (ZCTU) and the affiliates. By 1996, the primary focus of the affiliates, as with NEWU, was still on collective bargaining and other immediate needs of their members, such as support during and after retrenchment. While the outcome of debates on broader economic policies would impact on those areas, the affiliates lacked capacity even to handle their narrow remit effectively. The Secretary General identified a strong need to improve the skills of a broader group of trade unionists at both central and affiliate levels, in terms of their abilities to handle analysis and debate on a broader set of economic and social issues.

⁵⁶ Interview, 8 July, 1996.

In the meantime, the leadership of the ZCTU was developing its views on economic policy and strategising without the involvement or support of the grass roots of the union movement. This strategy also drove wedges between the grass roots, the affiliates and the ZCTU leadership.

As a result, another strategic change was an attempt to develop capacity on the shopfloor. The purpose of this was part to address the above needs and in part as the basis for a wholesale strengthening of the trade union movement. It was also associated with increasing pressure for a move away from the workers' committees to a shop steward system. Early successes were the greater development of regional and district structures. Yet, while the case study research indicated a high level of association between union membership and workers' committee membership, loyalties could still be divided. Furthermore, by 1996 this initiative had yet to translate into stronger affiliate unions more generally.

The ZCTU also played a supporting role to sectoral affiliates' efforts to find alternatives to firm closures and retrenchments. According to the ZCTU, it was frequently the Congress which took the lead in analysing the situation and trying to source funds to support workers efforts to take over company assets. In this role, the ZCTU came face to face with efforts to promote indigenisation. The ZCTU pursued the following line: workers are indigenous too and should be given a share of whatever public funds are used to support indigenisation. Supporting worker buy-outs was an obvious route to directing the available public funding. Many problems were associated with this view, however. If a company failed, was it any more likely that the workers would be able run it profitably than its former management? Why should public funds be directed in that direction in particular? Was this not a resurrection of the 'rescues' staged earlier and subsequently abandoned as an IDC strategy? This stance by the ZCTU provoked a very sharp reaction from the capitalist leaders of the indigenisation movement.⁵⁷

Employers Confederation of Zimbabwe

A general perception prevailed amongst survey respondents in 1996, that EMCOZ was a

⁵⁷ See "AAG rounds on ZCTU over its unions threat", *Herald*, 9 May, 1996

weak organisation. Affiliates charge that it was neither a useful source of comparative information across sub-sectors, nor did it provide sensible commentary and inputs on behalf of employers on draft legislation.⁵⁸ It was seen to have poor quality staff, who were given few incentives to be effective. There was an inadequate vision of common and shared interests across the private sector, in particular of employers' dealings with labour, to effectively build and empower their umbrella organisation. In the labour sphere, given that firms were not confronted by a strong and powerful, unified labour movement, capitalist employers saw little need to develop a strong representative organisation for themselves.

Furthermore, employers' interests were frequently in conflict, especially between larger firms and smaller firms. The interests of EMCOZ's constituents were diverse. Uniting them under one strong body was consequently problematic. As economic hardship has intensified through the 1990s, many firms have had to spend most of their resources struggling to survive.

EMCOZ suffered, as did the ZIF above, from not being fully representative of its constituency. The construction industry left EMCOZ in the late 1980s. During 1996, groups of larger firms, which were still members, were meeting to discuss labour related issues outside of EMCOZ's structures.⁵⁹ This move was ascribed to the limitations of EMCOZ's capacity and its lack of a sufficiently tough approach when dealing with government and the trade unions. While information is scanty as to exactly what constituency these breakaway groups represented, the fact that such meetings were taking place further weakened the cohesiveness of the employers' organisations, which lead to a further strengthening of government's role, as it became a stronger focus of interest by a greater range of competing groups and interests.

Nonetheless, like the ZCTU, EMCOZ processed some information for the benefit of its members. It was distributing regular publications and information to its affiliates. These included the *EMCOZ Bulletin*. In 1994, for example, this encouraged employers to be more open with their workers in providing "as much information as possible ... It is only with

⁵⁸ Interview with an engineering sector representative, 25 March, 1996.

⁵⁹ Notes from several interviews.

mutual understanding and trust that agreements satisfactory to both parties can be reached" (1994b:7). It encouraged employers and workers to develop their negotiating skills and to carry out thorough research prior to negotiations. Only one case study firm, however, referred to EMCOZ as a useful source of information or support.

As with other organisations, the level of participation in EMCOZ was questioned by EMCOZ officials,⁶⁰ with personnel managers, rather than managing directors typically being the ones to attend meetings (and probably the ones reading the circulars as well).

7.6 CONCLUSION

Successful industrial development requires a certain level of integration between strong and capable organisations supporting the development of industrial policy, technology, skills and labour relations. Such organisations should be able to coordinate the activities of public and private organisations and agents towards broad and well established goals, as part of an approved industrial strategy, or with the common goal of improving industrial development.

In Zimbabwe, none of these developments have been the focus of special effort, either by government, or (partly as a result thereof) by non-government agents or organisations. There has been too much focus of attention on the crude, ideologically driven approach to changing economic policy frameworks, summed up by ESAP. There has been too little attention to creating appropriate and strong industrial policy and supporting institutions. This has resulted in weak organisations both within and outside government. As is evident from a number of examples in this Chapter, since ESAP, government has remained at or close to the centre of power and decision-making in industrial issues. The precise complexion of this involvement has evolved, however. Furthermore, government has done little to give voice to, or to encourage the development of strong partner organisations. In part this has been a result of the fact that those in power have feared the creation of potentially powerful political rivals, from within both the indigenous business sector and the trade unions.

⁶⁰ Interview, 27 February, 1996.

Given both its limited capacity and more recently pressures from outside interests, such as the World Bank and UNIDO, the Ministry of Industry and Commerce has failed to develop a coherent industrial policy. Consequently, there has been neither pressure for government agencies to coordinate the development of state capacity oriented to industrial growth, nor has there been a firm base for the growth of public-private networks and institutional structures. Moreover, the state-led initiatives that have been established, such as training and technology organisations, have been beset by the usual free-rider problems, where private industrialists want state support, without levies and regulations.

The problems of forging effective links with the industrial capitalists has also been a result of problems within that class. This has incorporated two main elements. The first is an ambivalence towards the most desired type of state. On the one hand, capitalists want the state to have a limited role and not to interfere. On the other, state-subsidised training and intervention in favour of local industries are also desired. Such mistrust of state-led initiatives exists in most capitalist countries, however.

The second has resulted from the particular nature of the balance of power between different class forces in Zimbabwe. Private capitalists have been split into several groups and have experienced problems acting collectively, beyond the problems typically inhibiting business associations in most advanced countries. Historically, the climate of secrecy and mistrust has led to firms being very cautious about trusting others or allowing them to see or understand any aspect of their business. Moreover, since independence, many white capitalists have felt very distanced and isolated from any possibility of influencing policy-making. In part, this has resulted from racist attitudes towards the possibility of a black government developing sufficient capacity to run its agencies effectively.

8. CONCLUSIONS

8.1 INTRODUCTION

The preceding chapters divide this thesis into separate, yet related, analyses aimed at improving the understanding of the dynamics of industrial development in Zimbabwe. This has included: locating a theoretical framework for the empirical analysis; reinterpreting the historical development of Zimbabwean manufacturing prior to the introduction of ESAP in 1990/91; and, examining changes within the metal engineering sector, at the level of both firms and relevant non-firm organisations, since 1990/91.

Overall, this thesis has utilised concepts of path dependency and institutional legacies in the analysis of Zimbabwean industrial development. These concepts have not been widely used before in empirical analyses, which lends originality to the research. The case study of the metal engineering sector has attempted to address a number of questions regarding the determinants of industrial change in Zimbabwe, under a liberalised economic environment, during 1990-96. Original empirical material was collected from firms and non-firm organisations involved in or related to industrial development in Zimbabwe during a nine month fieldwork period in 1995 and 1996.

The overall conclusion is that orthodox economic approaches are at best partially useful in understanding processes of industrial change. The findings make a strong case, that without better firm data collection and an improved understanding of historical contexts and constraints, policy shifts to promote industrial development will not have the desired results. Even though the research collects a better data set than previously available, it is difficult to draw the types of definite conclusions and recommendations presented by most commentators on similar questions.

Sections 8.2 and 8.3 summarise the arguments made earlier. Section 8.4 suggests a number of possible policy directions and other measures that might be adopted to improve future prospects for industrial development in Zimbabwe. In the final section, some suggestions are made for further research.

8.2 THEORETICAL FRAMEWORK

The thesis adopts a mixture of institutional and class-based analytical frameworks, as outlined in the critical review of literature contained in Chapter 2. Industrial development is viewed as path dependent and evolutionary. This approach is used to reject equilibrium-based neo-classical economic orthodoxy and its new institutional economics and new political economy progeny.

8.2.1 The Orthodox Underpinnings of "Structural Adjustment"

An orthodox economic framework underpins the types of economic policy shifts in typical structural adjustment programmes, such as the one introduced in Zimbabwe. Removing the market "restraints" of the UDI and post-independence era government-regulated regimes, was expected to lead to a more efficient allocation of resources. This was to improve, *inter alia*, the prospects for future industrial growth and development.

According to orthodoxy, market-regulated prices were expected to indicate the optimal allocation of resources for industrial (and all other) producers. The removal of trade restrictions and foreign exchange controls should have promoted exports in product lines where Zimbabwe had a comparative advantage. By removing labour market controls, and controls on other "factor" prices, including finance, raw materials and imports, inputs were to be used more "efficiently". This was to influence investment, technology choices and product mixes towards labour intensive products, as wages were considered to have been maintained artificially high, and away from capital intensive products, as interest rates had been maintained at below market rates.

Existing industrial enterprises in the favoured sectors were to become more competitive and export-oriented. It was expected that transition costs might include the closure of industries in some product areas. For obvious reasons this was not stressed in the programme documentation. Furthermore, World Bank assessments in the late 1980s using domestic resource cost (DRC) analysis had shown that many segments of manufacturing (and engineering in particular) were potentially price competitive with products from abroad.

In many new institutional economics (NIE) approaches, some of the more restrictive orthodox assumptions are relaxed. For example, transactions cost imply that alterations to product mixes and changes in technology are unlikely to be costless. Nonetheless, the market system as a whole is still expected to work more effectively than any other. The system will still tend towards functional equilibria. The process of transition may be less smooth than under more rigid neoclassical assumptions, but the need for ESAP type economic policy changes is not questioned fundamentally. Other problems with this type of approach include the lack of a well developed framework for its empirical application.

Given the, at best, partially useful nature of neoclassical analytical approaches, these are inadequate as the bases for the formulation of policies to improve the prospects for successful industrial development, especially in sub-Saharan Africa.

8.2.2 Path Dependency and Institutional Legacies

Path dependence suggests historical patterns of behaviour and interaction constrain the possible outcomes of shifts in policy frameworks and firm behaviour. In this research, changes in firms and industries are seen to proceed from economic agents' actions, either individually or collectively. These do not take place in a social vacuum, however, as assumed by orthodox economics. They are influenced and constrained by the evolution of production relations in any particular society. Individual and group actions are limited by institutional legacies, and power relations. Shifts in economic policies may lead to changes in firm strategies and behaviour, but themselves result from the actions of agents taken in a specific historically influenced, political economy setting. The consequences of exogenous changes for firms or industries are constrained by the pattern of evolution of those firms or industries and associated organisations. Regulation of economic systems by markets is not seen as a natural order, leading to optimal outcomes, which would emerge once artificially imposed impediments and restrictions are removed.

It is not clear from the above theoretical construct, why some institutional characteristics become legacies that limit change and others do not, and why in some cases actions taken by individual capitalists, workers or firms may offset apparent constraints. It is also not to be interpreted that the institutional legacies are the types of rigidities, which if eliminated would

lead to free and flexible markets. This is where political economy considerations, such as the relationships between classes, become relevant. For example, the need for secrecy among the Rhodesian white community during the 1970s independence war, left a legacy of intense secrecy, which was compounded by the post-independence antipathy of the Zimbabwe government towards established private capitalists. This has acted as a more severe constraint than usual in capitalist societies on firms being prepared to share information publicly, or with other partners in the production process (for example, their workers). Such institutional legacies are not deterministic, however, but they may constrain change possibilities. Regarding secrecy, for example, one possibility might be for a strong government to enforce and monitor increased levels of disclosure.

The importance of various class and institutional factors can only be gleaned from a detailed examination of the particular history and other characteristics of a specific industrial setting. By the late twentieth century, capitalism has spread to virtually all parts of the globe, and at a most fundamental level involves a similar process leading to the majority, in order to ensure their social reproduction, having to sell their labour power to owners of capital. Yet, the manifestations and dynamism of capitalism vary considerably from nation to nation. A number of studies of individual industries and national industrial development referred to in Chapter 2, indicate the range and variety this may take. This variation leads to the need to understand the dynamics of particular industries in particular countries. Merely taking a class-based approach is no guarantee that there will be sufficient consideration given to relevant facts, however.¹

The theoretical framework leads to a need for empirical analysis for two basic purposes. Firstly, the analysis is used to demonstrate that the orthodox framework, which is implicit in ESAP's design, is fundamentally flawed. Secondly, the analysis is used to outline a more convincing account of the evolution of industrial development in Zimbabwe, as well as its requirements. This is used below in Section 8.4 as the basis for suggestions as to how the policy framework could be shifted to improve the prospects for the further development of Zimbabwean industry.

¹ This comment also applies to neoclassical analyses as well.

8.3 ASSEMBLING A COMPOSITE EMPIRICAL ANALYSIS

Examining the recent evolution of industrial development in Zimbabwe is problematic for a number of reasons. At the time of the fieldwork, during 1995 and 1996, the ESAP programme had been in place for five years. The pace of implementation had been uneven, however. Adherence to the programme's design was mixed. Some components, for example privatisation and the reduction of the fiscal deficit, had been poorly implemented. A serious drought in 1992 and a less serious one in 1995 had impaired the possibility of achieving many of the set targets.

Nonetheless, this thesis has a broader objective than that of assembling data to demonstrate ESAP's ineffectiveness. It has also sought to provide a better way of understanding the dynamic process of changes in industrial development more generally. Assessing whether firms' actions improved or damaged their prospects is complex. Changing work practices or new investments, for example, have short term costs which may have impaired short run performance, yet create greater long term viability for the firm.

An effort was made to limit the impact of these problems, through detailed examination of particular firm histories. Using mostly original data, collected in Zimbabwe during 1995 and 1996, the post-ESAP behaviour and performance of firms and non-firm organisations was examined in Chapters 4, 5, 6 and 7. This included assessing constraints on their attempts to change. The assembled data would provide a useful basis for further research (see Section 8.5).

8.3.1 Institutional Legacies and other Characteristics

The evolution of industrial development in Zimbabwe led to highly diversified firms. According to orthodoxy, essentially competitive industries should improve following liberalisation and those that are not should decline. Instead, the picture is much more complex. Many metal products firms have been suffering, while others within the same sub-sectors have done relatively well. This has not been related to whether they are in tradeable sectors or more labour-intensive sectors.

Since 1990, most firms have experienced increased competition from foreign entrants into the local market place, or from new local firms. The increased competition was initially perceived to be through prices. This emphasis shifted to product quality over a number of years. As a result, some firms changed relatively little, continuing to cut costs and hoping to dissuade new entrants on the basis of price. Other firms tried to introduce a range of changes in products, organisation, technology and training in order to improve their performance.² Many of the latter firms had already begun to introduce a number of such changes prior to the introduction of ESAP. They have displayed patterns of behaviour which are more change-oriented for reasons other than liberalisation.

In general, recent efforts at change have focused more on less costly forms of change, such as in the organisation of production. There has been relatively little shifting of product mix and investment in new technology. It is not clear from our new data, however, that any particular types of change have been consistently associated with superior firm performance since ESAP. It seems clearer, however, that firms which are more prepared and able to consider new investment and other more dynamic changes, seem to be positioned for a more viable future.

Many institutional legacies have constrained firm level change. The most important are featured in the rest of this section. Some deal with differences between firms, including: differences in ownership; deficiencies in management and technical skills; and poor motivation of production workers. Others are more general in explaining resistance to change. They include: the legacy of secrecy and non-cooperation; and low levels of interaction with weak supporting organisations, which have not been appropriately bolstered through government actions. While these topics are treated discretely, there are many areas where they are interrelated, and mutually reinforcing.

Local versus TNC ownership

Zimbabwe's industrial structure comprises a number of TNC-owned firms, alongside a much larger number of private local firms, mostly in the hands of settler capitalists. Many of the

² "Performance" here meaning not simply profitability, but contributory factors including productivity and product quality.

latter remain smaller to medium-sized. There are also a number of local, publicly listed multi-business conglomerates, some with TNC shareholders. The case studies reveal the TNC affiliated firms as more ready and able to change than others. They have greater access to relevant examples from within their international groupings, and to technical support. Their international groupings tend to have well developed norms of responsiveness to changes in their external trading environments. These firms appear to be more suited to survival and development under a market-regulated regime.

Many local firms are run by individuals with relatively low level technical backgrounds and even more limited exposure to management, finance and business skills training. These 'entrepreneurs' formed a class that could prosper in the past relatively closed economy, with limited competition, when considerations of cost efficiency, quality and timeliness of delivery were not of vital importance. With a more open playing field, some of these local capitalists are trying to learn, adapt and change to survive and grow while others are not. Firms belong to one or other group according to their particular histories, capabilities and patterns of agency. Even those which are more dynamic, face limited access to appropriate and useful sources of advice and support, as well as a questionable willingness to employ them. This results from having a limited network of potential advisers, restricted financial resources, and a long-standing suspicion of outsiders, especially black people and those from government (see below).

Lack of management and technical skills to implement changed strategies

Even those firms which have developed appropriate strategies to respond to the changed economic environment, may not have had the management expertise (derived from years of experience, educational background, training etc.) to implement them effectively. For example, moving into or upgrading exporting requires marketing and sales skills. Due to sanctions during UDI, few firms moving into manufacturing during that era developed their own marketing and sales functions. Sanctions-busting exporting activities were often handled by middlemen. With increasingly concentrated local production leading to a lack of local market competitiveness, local firms generally had not developed sales and marketing divisions. This legacy added a dimension of difficulty to efforts to build exports after 1990.

During the closed economy era, many firms exhibited high levels of inventiveness in producing a wide range of products, and maintaining equipment of steadily increasing age. Due to a lack of capital equipment replacement, however, technologies in use slipped further behind the international forefront from the early 1970s onwards. By the early 1990s, the investment required to sufficiently modernise their operations, so that firms could compete with new imports, was beyond many Zimbabwean firms, both technically and financially.³ Instead, efforts to improve competitiveness and productivity frequently implied the adoption of poorly understood and implemented changes in organisational practice. The potentially more beneficial investment in, and adoption of, new technologies has been sorely lacking.

Relatively low levels of shop floor skills, and a lack of attention to their development, in many firms is a further legacy of Zimbabwe's past. Before independence, there was a national reliance on imported artisans and engineers (mostly from Europe) to provide the skills necessary to staff and develop Zimbabwean firms. With white workers attempting to secure their position as a racially identified "labour aristocracy", policies were structured against training and recognition of black workers' skills. After independence, many skilled workers emigrated. The government took centralised control of the development of skills. As outlined in Chapters 5 and 6, as firms opted out of the system, this led to serious problems in both the volume and quality of skilled workers emerging. While the frequency of in-firm training has improved a little in the past few years, major concerns remain about the seriousness with which firms are pursuing it, the quality available through public training institutions and the value of, and recognition for, the skill certification process.

Poor worker motivation

Attempts to cut costs are among the most important ways in which firms attempted to deal with the changed economic environment. This has led to organisational changes, including improving the speed of the production process (for example, by reorganising the workshop), or reducing working capital requirements (for example, by introducing just-in-time production). The implementation of such changes is inhibited if workers are not motivated to implement the changes effectively and improve on them further. The best firms

³ The financial constraints on increasing investment after 1990 are also referred to, although not focussed on in Chapter's 4, 5 and 6.

internationally do not see such changes as one-off improvements, but use them as part of a process of creating a more integrated workforce striving for continuous improvement in the performance of their firm. This requires a higher level of work motivation and commitment, than that exhibited by most manufacturing workers in Zimbabwe.

The reasons for this include a variety of factors. In many firms, the most important of these are relatively low and declining real wages for most workers and low levels of intra-firm respect and trust relations, partly related to a legacy of racism. The more dynamic, and less change constrained, firms perform better in both these categories. Not all institutional legacies are negative. Some of the more dynamic firms have benefited from their persistent payment of above-average wages. Even for these firms, however, real wages have been declining since 1982. The pace of that decline increased after 1990, occasioned particularly by the high inflation associated with the 1992 drought. This had a one-off ratchet impact, with no semblance of catch-up in subsequent years. The introduction of freer collective bargaining did nothing to change this trend. This was related both to the continuing interference of a government unsupportive of workers' interests and institutionally weak organisations representing both employers and workers.

Respect and trust relations also vary considerably across firms. In many cases, this is a result of the character of the individual capitalists or managers running the firms. While the TNC linked firms may have adopted consultative habits from elsewhere in their international corporate groups, many firms have a history of having used black workers as little more than human "picks and shovels", reinforcing racial and other stereotypes. These have persisted and continue to inhibit capitalists and managers from regarding their workers as worthy of being fully consulted and advised about developments in the business. The lack of trust, for example, means many managers consider that any revelation their firm is facing difficulties, is likely to drive workers to lose motivation and seek alternative employment. This is regardless of the fact that there has been high unemployment in Zimbabwe for many years, and most workers' greatest chance of secure long term employment is bound to be by assisting in ensuring the long term future viability of their current employer. Workers suffering losses in real income, however, have problems identifying themselves with firms towards which they feel no loyalty, and which they consider do not respect them.

Another constraint on change, common to most private firms in Zimbabwe, is a lack of willingness to cooperate, assist or share information with other local firms, or supporting organisations (whether part of the government system or not). This is related to a legacy of secrecy and the political and class history of Zimbabwe. It inhibits the effectiveness of organisations trying to support industrial and trade activities. While it might be questioned why this might be important, one of the lessons to emerge from the late industrialisers is that there are few examples of individual firms achieving major industrial success, without significant local support through private-private networks, and through public-private networks (see Chapter 2).

This institutional characteristic is due to a number of factors. Secrecy campaigns of the 1970s left a lasting hangover in terms of the negative attitude towards any form of collaboration with outsiders. Moreover, the post-UDI era saw very close collaboration between a particular group of white capitalists and government to evade sanctions, as the whole formal economy was put on a war footing. This changed rapidly following independence. While the new government did little to actively oppose the settler capitalists, the atmosphere in Zimbabwe was one of considerable mutual distrust and misunderstanding between the previously dominant class and those now in government. This prohibited close relationships from re-emerging after 1980. Even during 1996, when this research was being conducted, this extreme suspicion persisted for many of those interviewed in both private and public sectors.

'Weak' supporting institutions

The high levels of distrust and suspicion had a negative impact on the effectiveness of various organisations intended to support industrial development. Generally government, or quasi-government agencies designed to support training, technology development, export promotion or investment face problems in carrying out their mandates if their clients are resistant to getting involved with them. The Zimbabwe government's post-1980 rhetorical antipathy towards private enterprise led to many officials within its agencies being unmotivated and/or unaware of how to re-orient themselves under the changed environment

of the 1990s. Few examples were provided of how to forge closer linkages with capitalists and managers in the private sector. While government promised more open policy consultation between itself and other social interests, most of government's actions between 1990 and 1996 belied any suggestion that such consultations were being viewed as serious policy influences. An increasingly acceptable facade deflected pressure, while substantive decision-making remained the servant of a very small cadre of politicians and senior public officials.

The lack of an agreed industrial policy, together with the orthodox framework underpinning the macro policies being followed under ESAP, meant that government focussed its promotional efforts on creating new SMEs, rather than attempting to assist already established larger firms to prosper and generate growth in employment and output. The attention paid to developing supporting institutions for these firms was therefore limited.⁴

Weaknesses of organisations supporting industrial development are both prompted and illustrated by the difficulties and delays in achieving agreement on an industrial policy statement. These reflect: a lack of capacity and experience in the Ministry of Industry and Commerce; the conceptual inconsistency of attempting to forge a coherent and coordinated industrial strategy in the face of ESAP's macro-framework; and, fragmentation within government. The latter leaves most of those agencies directly involved with supporting industrial development, with remarkably limited influence on macro policy formulation.

While most of the above weaknesses are common to a number of developing countries, additional problems faced by supporting organisations in Zimbabwe have included internal divisions between various capitalist representative groups. Most recently, this has been seen with the rise of indigenous business groups, which, in the short term, have interests conflict with those of the older more established representative bodies. The indigenous groups were formed mostly by those well-connected to the political elite, seeking to pursue strategies for their own benefit, rather than to exert pressure on government to improve conditions for capitalists more generally under a national development programme (see 8.3 below). Consequently, the already limited influence of the established organisations representing

⁴ Not that those supporting SMEs have performed particularly impressively either.

merchant and industrial capital, has been further weakened.

8.3.2 Overall Assessment of Industrial Development under ESAP

Assessing the impact of ESAP on industrial development is very complicated (see Chapter 2). Before-and-after analyses, counterfactual construction and cross country comparative analyses, all have serious problems. Consequently, the emphasis in this thesis has been to establish whether the post-ESAP changes in Zimbabwean industrial development *per se*, conform with the expectations of ESAP's architects and congruent currents within economic orthodoxy, or whether alternative approaches could provide a more satisfactory method for understanding the patterns of change.

Overall, the process of industrial development and the development of the engineering sector in particular, have not deepened since the introduction of ESAP. Notwithstanding problems over the definition of the boundaries of manufacturing in Zimbabwe, there has been relatively little new or even replacement industrial investment, and consequently an absence of technological improvement. A number of large enterprises have failed, some to be re-opened with much of their asset value and employment depleted. The sector's productive capacity and share of manufacturing GDP have both declined (see Chapter 4).

Nonetheless, some firms exhibited considerable dynamism. The reasons are mostly related to structural and behavioural factors which enable particular firms to overcome many of the institutional legacies identified above. These might include: affiliation with TNCs; higher skills of the workers; and more positive attitudes of respect and trust by capitalists and managers towards their workforce. In general, the more dynamic firms, and those investing more, are those with established historical experience of such behaviour. Such characteristics do not, however, determine success. Firms' behaviour and performance can change and fluctuate rapidly due to external or internal events (for example, a particular member of the management team that has led such processes may leave).

The complexity of the determinants of individual firm performance does, however, resoundingly confirm the rejection of the simplistic behavioural assumptions that underlie the ESAP approaches. Static price based analyses of competitiveness, while possibly

influencing whether new products can be introduced at a particular time, appear to have little to do with the dynamic efficiency of already existing firms. For example, opportunities for capturing economies of scale and scope could be achieved with sufficient investment and expertise to enable firms to expand their sales and product ranges through the penetration of export markets. Yet, it is in precisely these areas that most firms in Zimbabwe are lacking, and therefore failing.

The removal of virtually all previous mechanisms supporting the firms, including export subsidies, and domestic protection, has left Zimbabwean firms relying very much on their own resources. Substitute supporting measures rely more heavily on institutional interaction (for example, through the export promotion agency, ZimTrade), than earlier trade and fiscal policies. Given legacies of social fragmentation, racial antagonism and secrecy, such measures have proven far less successful. The same legacies also militate against routine policy impact by pressure from particular firms, either directly or through their representative bodies.

The ESAP policy framework, with the associated difficulty in developing an active or coherent industrial strategy, has assisted in maintaining the weakness of potentially supportive organisations, as indicated above. Organisations which are not aware of how to be more proactive in the more open economic environment, also lack capacity and are not integrated into a national industrial development drive.

In essence under ESAP, therefore, firms have been expected to transform themselves into dynamically efficient organisations which are able to compete with firms receiving much more state support in other countries. These other firms may have already accumulated significant expertise in producing for international markets; have captured economies of scale, scope and speed; and, in many cases only developed on the basis of strong support from experienced, skilled and well embedded institutions within their own countries. A national industrial development strategy is unlikely to be successful at the macro level, in the present era, if it is built on waiting for individual firms and capitalists to become winners, without any broader mechanisms of support.

8.3.3 Political Economy and Social Relations

Zimbabwean industrial development suffers from a dislocation of interest between those owning most of the productive industrial capital and those formulating the policies that affect industry. The disjunction between economic and political power since independence explains the lack of coherence and unevenness in industrial policy making during the 1980s. This has persisted into the 1990s. The indication in the late 1980s that industrial capitalists were gaining a stronger hand in influencing the shape of government policy was an illusion arising from a concurrence between their lobbying and an internal shift in governmental interests which led to a shift away from the centralised policies of the earlier pre and post-independence eras.

Those accumulating most in the post-ESAP era have developed into an indigenous class comprising those close to, and including, those in political power. Their pursuit of industrial interests has mostly been through redistributive strategies, focussed on existing productive assets, rather than investing in new manufacturing ventures. For these strategies to be successful, it was important that no other classes were able to maintain or develop strong political influence. Consequently, any organisations which have threatened their new found influence and political directions, including both those representative of existing industrial capitalists, as well as the trade unions, have had to be marginalised.

Although this has been portrayed in the Zimbabwean media as a racial issue, it is not. The race card has been used as a way of giving the campaign some popular credibility. In the 1990s, many black Zimbabweans have attempted to become industrial or merchant capitalists and play important roles in other classes' representative organisations. They have run the risk of being branded "Uncle Toms" in the process. Equally, others, striving to become successful capitalists in their own right, have not managed to gain support from either the existing institutional structures, or the politically favoured indigenisation structures. These actors, challenging both established capital and emergent capital, have been the least successful.

Recently, however, there have been indications that, in order to continue to improve the value of their assets, some indigenous capitalists have become more dynamic in their behaviour.

This has included lobbying government to introduce programmes which are more directly supportive of national industrial growth and dynamism, rather than their own particular money-making ventures.

At the same time, many of the established white capitalists, especially those of settler origin, have not seen a secure future in Zimbabwe, and have been hesitant to invest their earnings in existing ventures, preferring to pursue capital flight and other strategies to spirit their accumulated earnings out of the country and away from the prying eyes of the hostile authorities. Consequently, many locally owned businesses have not undertaken serious improvements in their productivity and competitiveness.

Nonetheless, the influence of the established industrial capitalist class could still have a policy impact. For example, widespread corporate lobbying, led by the CZI, led to revisions to the tariff structure in 1996/97. A great deal of time and commitment from a number of industrialists eventually pressured government to accept, in principle, the reintroduction of some measure of protection for many local manufacturers. Due to the weaknesses of both the representative organisations and government counterparts, following this acceptance it took considerably longer for the review to be implemented.

The indigenisation groups made some headway through their divisive campaigns. By the mid-1990s a number of their leaders were established on the boards and committees of power. Over time, they appear to have interests more and more in line with those of the already established capitalist class. The recent appointment of a number of prominent white capitalists to the boards of firms being taken over by indigenous interests heralds a change in Zimbabwe's social dynamics. At its most positive, this may lead to the building of more solid relationships between government and larger groups of capitalists, once more.

8.4 FUTURE PROSPECTS AND POLICY OPTIONS

Where is Zimbabwean industry headed? What could be done now to attempt an alternative approach to the process of revitalising the manufacturing sector and giving it significantly improved prospects for future growth and development?

There are two complementary ways of approaching these questions. One is to look at relevant examples from elsewhere, to see what lessons could be adapted and applied. The second is to suggest ways that Zimbabwe could possibly evolve more positively in the future by extrapolating from the empirical analysis carried out in this thesis, given the political economic realities.

8.4.1 "Globalisation" and Asian lessons

There are many problems with the globalisation thesis, not least is the highly questionable evidence that it is happening at all (see Chapter 2). With the implication that government action can do very little to promote competitive industries, it becomes an excuse for inactivity. If globalisation is not happening, and its supposed symptoms are merely a reflection of the increased international penetration of capitalism, then the policy implications fall away. The need for government organisations and class alliances committed to national industrial development, to play effective supporting roles in the face of highly competitive world markets, becomes all the stronger.

An alternative view is prescribed by those who attribute the success of Asian industrialisation to the key positive role played by efficient government organisations, in varying degrees of alliance with the nations' large-scale capitalists (see Chapter 2). The main recommendation is for a strong focus on developing capable and proactive public organisations. Policies should maximise the long term potential competitive advantage of local industries, using whatever means seems most appropriate.

A great deal of debate has occurred about the applicability of such examples to Africa. One of the main problems seems to be that the conditions for close collaboration between public and private organisations are dependent on the class relations existing within a particular society. As outlined above, the current state of these relations in Zimbabwe is not conducive to the kind of social collaboration seen in many East Asian countries. For this reason, it is interesting that Zimbabwe is attempting to follow a particular interpretation of the Malaysian experience. This includes embarking on a national visioning exercise, Vision 2020, and establishing a National Investment Trust to assist in transferring ownership in publicly owned enterprises to private black Zimbabweans. The latter is similar to activities which assisted

in transferring much ownership in the Malaysian economy to the Bumiputra. There have also been many recent visits to Malaysia by the Zimbabwean head of state and other senior political and executive individuals, as well as the encouragement of considerable foreign investment from Malaysia. Nonetheless, the relevance of Malaysia is highly questionable. The rapid expansion of education and employment for Bumiputra by the state was among the most important features of the Malaysian experience (see Rasiah, 1995). In Zimbabwe, the direct use of state organs for employment creation has been severely curtailed since the introduction of ESAP. Furthermore, the Chinese community in Malaysia was relatively large and they were more nationally identified with Malaysia, in comparison with Zimbabwe's white population.

One of the key factors in most Asian countries' success was the focus on developing competent and efficient public sector technocrats. Zimbabwean efforts to reform and improve the competence of civil service staff are likely to take some time to show positive results. Reasons for this include: the non-elite status of civil service positions within Zimbabwean society; the lack of class coherence between those in the ruling party and those in the administration; and, the relatively poor remuneration received by senior officials. This is an area which should receive significant and immediate attention, since it is amenable to policy change. At a more fundamental level, the social dislocation between public officials and capitalists may be harder to resolve.

8.4.2 Developing Homegrown Approaches

This section explores the potential paths to be followed by Zimbabwe. Zimbabwe is endowed with substantial natural resources,⁵ both mineral and agricultural, and has good tourism potential, already partially exploited. Its manufacturing sector, while developed to some extent, has shown considerable vulnerability over the past few years. The main comparative advantages behind the engineering sector, are the nation's resources of iron ore and coal. Yet, the requirements to enable ZISCO to be an efficient and cost effective integrated iron and steel producer, to provide the basis for a cohesive downstream industry, seem to be huge. Although the government has embarked on the refurbishment of ZISCO,

⁵ The local availability of raw materials may well prove to detract from rather than enhance the possibilities of dynamic growth (for example, see Auty (1994)).

and is well advanced with plans for its partial privatisation, it is not clear whether this programme will be able to offer local producers cheap, good quality, steel supplies (which it certainly is not doing consistently at present).⁶

This does not mean, however, that there is no potential competitive advantage for Zimbabwe in downstream steel and engineering activities, building on the pool of skilled and experienced workers which has developed over the life of the industry to date. This then begs the question about how to develop the potential competitive advantage.

A number of possible complementary approaches are outlined briefly in the following paragraphs. This research has not been detailed or exhaustive enough to provide more than basic suggestions at present. Clearly, following through on any of these would require further research, as indicated in Section 8.5. Some of these recommendations are generally applicable to countries at Zimbabwe's level of development. Others, particularly those dealing with the consequences of Zimbabwe's institutional legacies, are more country-specific. In applying these recommendations more generally, the need for similar types of research, attempting to understand country-specific patterns of path dependence and institutional legacies, is paramount.

In Zimbabwe, a pre-requisite for more dynamic progress is agreement on a detailed and action-oriented national industrial development strategy. As shown in Chapter 7, this has proven particularly problematic to date. It requires greater pressure by representative groups of capitalists and workers on senior policy makers to accept the need for such an approach. At present, policy makers are not attempting to resolve the contradictions between a more active industrial strategy and the frameworks behind ESAP. Macro policies must be developed which are more supportive of productive investment, if many of the following recommendations are to be adopted. It is not at all clear how this might be brought about, when the government is committed to pleasing the major funding agencies and their orthodox, non-interventionist approach.

⁶ There has been relatively little attention paid to ZISCO in the rest of the thesis, as from most other firms' point of view, its fortunes, while potentially important if it were able to supply good quality steel at less than world prices, have not been critical to their survival. From the industry point of view, however, the potential contribution that ZISCO could make to the development of downstream industries could be very significant, as is attested by the role that POSCO has played in the development of South Korea (Rodrik, 1995:91).

One of the key matters to be addressed in such a strategy would be the implementation of active policy measures to increase the rate of industrial investment, both by existing firms and by new entrants (both local and international). This is likely to require a more active role by government agencies, such as the IDC, to revitalise and lead the process. It will also require financial and information constraints, amongst others, to be relaxed. Other policy elements would focus on attempting to alleviate the various institutional legacies outlined above, as well as building more capable public and private institutions to support many facets of industrial development.

There might be scope for more concerted lobbying by the combined weight of business organisations and the trade unions to push through such an industrial strategy. At present, it is only the latter which have proposed a comprehensive alternative to the ESAP programme. Changes need to be made therefore, to promote the influence of the voices of the representative groups of various classes and social interests. Evidence that government is committed to taking this route would be likely to encourage existing members to become more active and potential members to join.

There needs to be a rapid strengthening of expertise available to government organisations involved with industrial development, in all spheres (trade, technology, training, etc.). Mechanisms need to be introduced to encourage the relevant organisations to consult and communicate more effectively between themselves. Should this need be accepted, stronger leadership and direction will be required within government to force this through.

The various organisations which will be required to implement a more active industrial policy approach have to develop mechanisms to ameliorate the consequences of legacies of social fragmentation; racial friction; and, secrecy and non-cooperation. Finding a way of developing a more genuine sense of national vision and purpose could assist in this. Given the various legacies, it will not be easy to persuade all Zimbabweans to accept that they must share in the growing fortunes of a more successful nation. Clear incentives need to be offered to firms to encourage improved performance and openness. Cheap finance, tax exemptions or subsidies of some kind, could be awarded for superior firm performance in exporting, training and productivity improvement. Over time, this could also be extended

to the full Human Development Enterprise framework proposed by Standing (1995). Awards would be conditional on firms supplying certain types of information on themselves, which would encourage greater openness.

Workers representative bodies needs to be strengthened at industry and firm level, to increase their scope for meaningful participation in pressing for improved firm performance. The government can play an active role in this process, by, for example, financially supporting the unions (without dominating them politically) and strengthening public sector unions (either through financing them, or at least by allowing them space to organise). Unions, themselves, might consider bringing issues of training and productivity improvement into collective bargaining discussions. This has to accompany much greater emphasis on the education of capitalists and managers about the merits of different ways of organising and involving their workers in production and other decisions. This is not to suggest that there is one way of organising production which will always be appropriate or superior. Such a programme may require legislative backing. It would have to be based on discussion with the best firms locally. It should also take into account the need to avoid discouraging the majority of productive capitalists, or deter others from entering production in Zimbabwe.

The training and certification system needs to be reviewed to promote the development of the types of skills required most urgently. These include technical and managerial skills. The control of the system needs to be made more transparent. Greater encouragement and recognition needs to be given to public participation, in order to encourage the best and most senior expertise within industry to play a guiding role. Similarly, TNCs need to be encouraged, possibly through regulation, to share their wisdom and practices more openly, so that local firms can gain from their experience. This may need to be supported by regulation as well.

These suggestions are sketchy at present. They depend largely on the ability of government to achieve swift development of capacities aimed at effective management of the more interventionist elements. This implies the need for policy changes to be carefully phased and monitored, so that learning-by-doing characterises these institutions, as well as manufacturing firms.

8.5 FURTHER RESEARCH

One of the key findings of this research has been the lack of reliable and good quality data available in Zimbabwe. Consequently, there is a critical need for better data collection and analysis by the appropriate Zimbabwe institutions as a pre-condition for improved industrial policy-making. In government, for example, these include the Central Statistical Office, which is already undergoing certain organisational and skills improvements, and the Ministry of Industry and Commerce. The relatively small costs of improving data collection and analysis can easily be justified on the grounds of the improved incomes to be realised through more dynamic efficiency and growth in manufacturing.

The present research has been hampered by the difficulty of establishing a consistent historical picture. There is a need, therefore, for this type of very detailed case study, in-depth and historically based empirical research to be repeated on an ongoing basis. Surveys of industrial managers and workers should become routine. The research should also spread to other key sectors within manufacturing. The choice of organisations to conduct this research will need to be carefully considered, given the legacies of secrecy and suspicion.

Finally, there is a need for complementary research. This should examine those areas which fell outside the scope of the research in this thesis, including the impact of financial deregulation and institutional legacies and other constraints in the financial sector. The preliminary research into the less visible types of institutional legacies and evolution, initiated in the fieldwork, but not reported in the thesis, should also be pursued. This includes examination of evolving patterns of contracting, developing business norms, and changes in the legal framework relevant to industry.

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ZIMBABWE: ENGINEERING SECTOR CENSUS

Questionnaire to be kept in strictest confidence

Date: _____

Name of Firm: _____ Year of Establishment: _____
 Postal Address: _____
 Physical Address: _____
 Phone No.: _____ Fax No.: _____
 Name of Respondent: _____ Position in Firm: _____

NOTE: The following questions refer to your MANUFACTURING division or operations only, except where specified. MANUFACTURING includes wrought iron and sheet metal work, fabrication, assembly and refurbishment. It does not include repair, maintenance or distribution activities.

1 Indicate the main ownership of your firm

[Please circle where applicable] Domestic Private [1], Government/Parastatal [2], Domestic Listed [3],
 Foreign Private [4], Joint Venture [5], Other (specify _____) [6]

2 Indicate the category that best represents your manufacturing operation

[Please circle all applicable] Production of components for assembly by third party [1]
 Assembly of final product only [2]
 Full sequence manufacturing operations up to final product [3]
 Production of equipment for use by other manufacturers [4]
 Other (specify _____) [5]

3 What was the value of your annual sales in ?

Z\$	Last year	Two years ago	Four years ago [1991]
Manufacturing Sales			
Non-manufacturing Sales			

[If annual sales are not known, please indicate the half year, quarter or months' sales and the period _____]

4 List Products that account for more than 10% of the value of your manufacturing sales (with their percentage of total sale)

Product	% of Manufacturing Sales
a.	
b.	
c.	
d.	
e.	

5 Which of these have been introduced as new product lines within the past four years, since 1991?

6 What improvements, if any, have you made to the products listed in question 4. above in the last four years?

[Please tick for each type of improvement, which was made for each product. Where none, leave blank]

Product	Quality Improvement	Production Process Improvement	Marketing/Distribution Improvement	Other (Specify)
a.				
b.				
c.				
d.				
e.				

7 What product lines have you ceased producing in the past four years?

8 How much of your output in value terms did you export in the last full year?

[Please circle where applicable] 0% 1-10% 11-25% 26-50% 51-100%

9 How many employees (including full-time, part-time and casual) did you have on 30 September 1995? _____

10 How many employees (including full-time, part-time and casual) did you have in 1991? _____

11 How many apprentices do you employ at present? _____

12 What percentage of your present workforce holds a technical (engineering) or metal-working qualification?

[Please circle where applicable] 0% 1-5% 6-10% 11-20% over 20%

13 How many qualified graduate engineers do you employ at present? _____

14 Do you have a separate

In-house maintenance unit or department?
 Quality control unit or department?

Yes [1] No [2]
 Yes [1] No [2]

- 15 Do you use any
 Numerically controlled (NC) machinery in production? Yes [1] No [2]
 Computer numerically controlled [CNC] machinery in production? Yes [1] No [2]
- 16 Do you carry out any computer aided design [CAD] in-house? Yes [1] No [2]
- 17 Regarding the plant or production line machinery currently in use in your firm
 How old is the oldest piece? [years] _____
 How old is the youngest piece? [years] _____
 When did you last purchase new/secondhand equipment? [date] _____
- 18 What new technology in production have you introduced in the last 4 years?
 [Please circle all applicable] None [0], Computerisation [1], Line automation [2], Automated machinery linkages [3]
 New Production Machinery [4], Other (specify _____) [5]
- 19 Where do you source the production technology you are using?
 [Please circle all applicable] Foreign Parent Company [1], Foreign Equipment Supplier [2], Local Equipment Supplier [3]
 Copying [4], Develop in-house [5], Other (specify _____) [6]
- 20 What changes have you made in the way production work is organised in the last 4 years?
 [Please circle all applicable] No Changes [0]
 Reorganised layout in workshop(s)/factory(ies) [1]
 Introduced/extended "just-in-time" inventory reduction [2]
 Introduced quality-at-source/quality task forces [3]
 Introduced continuous efforts to improve productivity/layout [4]
 Expanded worker-management communication [5]
 Introduced/increased shift work [6]
 Other (specify _____) [7]
- 21 What percentage of your workers and artisans belong to a recognised trade union? Which one?
 [Please circle where applicable] 0% 1-25% 26-50% 51-75% 75-100% Name: _____
- 22 Do you have a workers' committee in operation at your plant? Yes [1] No [2]
- 23 Does the firm's management belong to an employers' association? Yes [1] No [2]
 Name of Association(s): _____

Please comment on your present major constraints and problems [add extra sheets if required]

THANK YOU FOR YOUR TIME AND ASSISTANCE.

ZIMBABWE: ENGINEERING SECTOR DETAILED STUDY

General Survey: Investment, Products, Strategy

Name of Firm _____ (code _____) Date _____
 Name of Respondent _____ (code _____) Position in Firm _____

Performance Data

During the past four years, how have the following changed?

	Increased (1)	Decreased (2)	No change (3)	Don't know (0)
Levels of work-in-progress				
Stock holdings				
Product quality				
Speed of production				
Maintenance costs				
Worker productivity				
Capacity Utilisation				
Profitability				

Investment

Was the original capital for your firm provided locally or from abroad? Local (1) Abroad (2) Both (3)
 Has the company ever sought to take over another company? Yes (1)/No (0)
 If yes, did the company ever take over or merge with another company? Yes (1)/No (0)
 If yes, when? _____
 Who was other company owned by previously? Foreign (1), Local Private (2), Local Listed (3), Other (specify _____)
 What was the principal reason for the take-over/merger? _____
 What is the present breakdown in shareholding? _____
 (in percentages) Foreign _____ Local (State) _____ Local (Private) _____
 Has there been an injection of additional capital within the last four years? Yes (1)/No (0)
 Was the new capital provided locally or from abroad? Local (1) Abroad (2) Both (3)
 If "Both", what were percentages? Foreign _____ Local (State) _____ Local (Private) _____
 On any occasion since 1989 have you been impeded from purchasing new capital equipment for a? Yes (1)/No (0)
 If yes, when _____
 Give other details _____

Products

Regarding new products introduced since 1991, please give dates and reasons for their introduction

(i) Product _____ Date _____ Reason _____

(ii) _____

(iii) _____

Choose from: *New technology available (1), new market niche identified (2), competitor exited (3), took over another company's operations (4), other (specify (_____))*

For products which you have ceased production since 1991, or which previously accounted for more than 25% of sales by value, but do not any longer.

- in each case indicate the principal reason for the change

Product _____ Date of reduction _____ Reason _____

(i) _____

(ii) _____

(iii) _____

Choose from: *Margins too low (1), new technology not accessible (2), new competitor(s) entered (3), tastes have changed (4), other (specify (_____))*

List the approximate dates when the percentages of total sales by value last changed by more than 25% of the total for each of your three principal products

- in each case indicate the principal reason for the change

Product _____ Date _____ Scale of Change _____ Reason _____

(i) _____

(ii) _____

(iii) _____

List the approximate dates when the percentages of exports by value last changed by more than 25% for each of the above products

- in each case indicate the principal reason for the change

Product _____ Date _____ Scale of Change _____ Reason _____

(i) _____

(ii) _____

(iii) _____

List the approximate dates when product quality for each of the above products last changed significantly

- in each case indicate the type of change and the principal reason for the change

Product _____ Date _____ Type of Change _____ Reason _____

(i) _____ Increase=1, Decrease=0

(ii) _____

(iii) _____

What are the principal sectors served by each of your major products?

Choose from: *Agriculture (1), Construction (2), Motor Industry (3), Domestic Consumers (4), Intermediate Industrial (5), Mining (6)*

Final Industrial or Commercial (7), Other (specify _____)

(i) _____

(ii) _____

(iii) _____

If 3 or 5, list your three major customers:

(i) _____

(ii) _____

(iii) _____

What was the average time from order to delivery for each of these products in days in...

Early 1996

- (i) _____ days
- (ii) _____ days
- (iii) _____ days

1991

- _____ days
- _____ days
- _____ days

What is your share of the Zimbabwe market for each of the products?

- (i) _____ %
- (ii) _____ %
- (iii) _____ %

Who are your principal competitors in Zimbabwe for each of the above products, and what are their shares?

Name _____

- (i) _____ %
- (ii) _____ %
- (iii) _____ %

- Don't Know
- Don't Know
- Don't Know

How many new local or foreign competitors have entered the local market within the last five years?

- (i) _____
- (ii) _____
- (iii) _____

How many competitors have exited within the last five years?

- (i) _____
- (ii) _____
- (iii) _____

How has foreign competition for each product changed in the last five years?

- (i) Increased (1) Decreased (2)
- (ii) Increased (1) Decreased (2)
- (iii) Increased (1) Decreased (2)

- No change (3) Don't know (0)
- No change (3) Don't know (0)
- No change (3) Don't know (0)

How do the following rate as importance in your ability to compete internationally?

	Unimportant (0)	Slightly important (1)	Important (2)	Very Important (3)	Essential (4)
Quality					
Product Design					
Timeliness of Delivery					
After-sales support					
Price					
Capacity to respond to orders					
Dependability					
Product Flexibility					
Other (specify _____)					

Rank the top five of the above in order of importance

SHOW CARDS

How do the following rate as importance in your ability to compete locally?

	Unimportant (0)	Slightly Important (1)	Important (2)	Very Important (3)	Essential (4)
Quality					
Product Design					

Timeliness of Delivery				
After-sales support				
Price				
Capacity to respond to orders				
Dependability				
Product Flexibility				
Other (specify _____)				

SHOW CARDS

Rank the top five of the above in order of importance

Employment

How many were employed in the company when it started business, or in 1965, whichever was later? _____

What is the maximum number that have been employed since 1965, and when was that? _____

How has the number changed over the last fifteen years? _____

How has the percentage of casual workers changed in the last five years? _____

How has the percentage of contract workers changed in the last five years? _____

Have you carried out a retraining exercise during the past five years? _____

How many staff were retrained? _____

Did you use it as an opportunity to improve the average quality of your work? Yes (1)/No (0) _____

Did you encounter any worker resistance to the exercise? Yes (1)/No (0) _____

If yes, what? _____

How are representatives appointed to the workers' committee? _____

How are workers' representatives appointed to the works council? _____

What percentage of the workforce is paid the legal minimum wage? _____ %

How has this changed in the last five years? _____

If your workers are paid a performance bonus, on average what percentage is it of their total annual remuneration? _____ %

How has this changed in the last five years? _____

Decreased (2) _____

Decreased (2)

Decreased (2)

Decreased (2)

Increased (1) _____

Increased (1)

Increased (1)

Yes (1)/No (0)

No change (3) Don't know (0)

No change (3) Don't know (0)

No change (3) Don't know (0)

Recruitment, Training and Skills Development

What is the normal yearly intake of apprentices? _____

How has this changed in the past five years? _____

What is the intake this year? _____

Do you choose your own apprentices? _____

In the last five years, what percentage of apprentices have you kept on as full-time employees on average? _____ %

Have the educational entry requirements increased or decreased in the last 15 years? Increase (1) _____

Have the professional entry requirements increased or decreased in the last 15 years? Increase (1) _____

Have the experience entry requirements increased or decreased in the last 15 years? Increase (1) _____

On average, how much education do you estimate your unskilled production workers have had? _____ (years)

Increased (1) _____

Increased (1)

Increased (1)

Decrease (0) _____

Decrease (0)

Decrease (0)

Decrease (0)

No change (3) Don't know (0)

No change (3) Don't know (0)

No change (3) Don't know (0)

On average, how much education do you estimate your semi-skilled production workers have had? _____ (years)

On average, how much education do you estimate your supervisors/foremen have had? _____ (years)

On average, how much education do you estimate your technicians have had? _____ (years)

How many training specialists or staff do you have? _____

What types of training do you conduct? _____ (tick all that apply - if none, go to A below)

Basic Educational (1) Short term external course (4) Sponsored degree (7)

On-the-job (2) Apprenticeship (5) Professional qualification (8)

Short term in-house course (3) Longer term external course (6) Other (specify _____)

Do you have joint programmes with other firms to provide training? Yes (1)/No (0)

If yes, are they organised through

Industry association (1), Govt/Public organisation (2), ad hoc (3), specialised training firm (4), supplier training (5), buyer training (6), other (_____)

What new types of training have you introduced in the last five years? _____

(Choose from above list)

What types of training have you dropped in the last five years? _____

(Choose from above list)

Who provides your in-house training? _____

There is none (0), in-house trainers (1), line managers or supervisors (2), other (specify _____)

Who provides the external training? _____

There is none (0), Public training establishment (1), Private training establishment (2), Consultants (3), other (specify _____)

How is training paid for? _____

Firm pays (1), Pay levy to external institute (2), Give trainee grant (3), Give workers leave (4), Other (specify _____)

Does training take place under a training plan for the whole firm? Yes (1)/No (0)

Does each staff member have an individual training plan? Yes (1)/No (0)

If not training, why? _____

Not needed (1), lack of facilities (2), no trainers (3), high costs (4), disrupts production (5), don't know (6), other (specify _____)

Does each staff member have a career development plan? Yes (1)/No (0)

Does each staff member have an annual review at which training is discussed? Yes (1)/No (0)

How have the skills of the following categories of staff changed in the last five years?

Unskilled production worker	Increase (1) Decrease (0)	No change (3)	Don't know (0)
Semi-skilled production worker	Increase (1) Decrease (0)	No change (3)	Don't know (0)
Artisan	Increase (1) Decrease (0)	No change (3)	Don't know (0)
Technician	Increase (1) Decrease (0)	No change (3)	Don't know (0)
Engineer	Increase (1) Decrease (0)	No change (3)	Don't know (0)
Manager	Increase (1) Decrease (0)	No change (3)	Don't know (0)
Unskilled production worker	Increase (1) Decrease (0)	No change (3)	Don't know (0)
Semi-skilled production worker	Increase (1) Decrease (0)	No change (3)	Don't know (0)
Artisan	Increase (1) Decrease (0)	No change (3)	Don't know (0)
Technician	Increase (1) Decrease (0)	No change (3)	Don't know (0)
Engineer	Increase (1) Decrease (0)	No change (3)	Don't know (0)
Manager	Increase (1) Decrease (0)	No change (3)	Don't know (0)

Have you taken any steps towards getting workers to become multi-skilled in the last five years? Yes (1)/No (0)

A

Corporate Strategy

Do you have a corporate business plan?

Yes (1)/No (0)

IF YES, PLEASE ANSWER THE FOLLOWING:

Is it any of the following?

(tick all that apply)

Annual (1) Multi-year (2) Rolling (3)

Which of the following does it deal with, if any?

(tick all that apply)

Investment (1) Recruitment (2) Training (3) Organisational changes (4)

Capacity (6) Marketing (7) Financial Objectives/Margins (8)

Who of the following are consulted in its preparation?

(tick all that apply)

Unskilled production workers (1) Supervisors/Foremen (4)

Semi-skilled production workers (2) Technicians (5)

Artisans (3) Engineers (6)

Once prepared, how is it communicated?

Staff circular (1) General Meeting (2) Through Workers' Committee (3)

It is not (0) Other (specify _____)

IF NO, PLEASE ANSWER THE FOLLOWING:

How do you set corporate strategy?

How often is it reviewed?

6 monthly (1) Annually (2) Ad hoc (3)

Who of the following are consulted in the review?

(tick all that apply)

Unskilled production workers (1) Technicians (4)

Semi-skilled production workers (2) Engineers (5)

Artisans (3) Managers (6)

Once prepared, how is it communicated?

Staff circular (1) General Meeting (2) Through Workers' Committee (3)

It is not (0) Other (specify _____)

IN EITHER CASE

How have you changed your approach to planning for the company in the last five years?

List the main three changes in your STRATEGY in the past five years?

(i) _____

(ii) _____

(iii) _____

When did you introduce the changes?

(i) _____

- (i) _____
- (ii) _____

What was the principal cause of each of the changes?

- (i) _____
- (ii) _____
- (iii) _____

Which of the following were taken into account in adopting each strategy, in order of importance? SHOW CARDS

Customer requirements (1), competitors' actions (2), export market characteristics (3), physical resources available (4), skills available (5), costs (6), technology available (7), organisation structure of the firm (8), other (specify _____)

- (i) _____
- (ii) _____
- (iii) _____

What have been the major outcomes of each of the changes (quantify benefits, where possible)?

- (i) _____
- (ii) _____
- (iii) _____

What problems, if any, have you experienced in implementing each strategy?

- (i) _____
 - (ii) _____
 - (iii) _____
- Choose from: technical problems (1), slow implementation (2), higher cost than planned (3), worker resistance (4), management resistance (5), other (specify (_____))

Organisation of Production

If you have a separate maintenance unit, when was it established?

- Do workers not employed in such a unit also carry out maintenance activities? Yes (1)/No (0)
- Have you previously had a separate maintenance unit, which you do not now? Yes (1)/No (0)

If you have a separate quality control unit, when was it established?

- Do workers not employed in such a unit also carry out quality control activities? Yes (1)/No (0)
- Have you previously had a separate QC unit, which you do not now? Yes (1)/No (0)

Do you have a cost management/control system in operation?

- If yes, what? Yes (1)/No (0)

If you have introduced new techniques in the organisation of production in the past four years, who have you appointed to be responsible for their introduction? Production Manager (1), Internal Project Manager (2), Specially recruited manager (3), Chief Executive (4), Other (specify _____)

List the main three changes in the organisation of production. MAKE SURE SEPARATE FROM STRATEGY CHANGES

- (i) _____
- (ii) _____
- (iii) _____

When did you introduce the changes?

- (i) _____
- (ii) _____
- (iii) _____

What was the principal cause of each of the changes?

- (i) _____
- (ii) _____
- (iii) _____

What was the source of information/advice used in each case?

- (i) _____
- (ii) _____
- (iii) _____

Choose from: Replication of another company (1), Parent company (2), Consultants (3), Other (specify _____)

Was there consultation with employees/ the union on their introduction?

- (i) Yes (1)/No (0)
- (ii) Yes (1)/No (0)
- (iii) Yes (1)/No (0)

Did employees/the union have an impact on the decision to introduce each change?

- (i) Yes (1)/No (0)
- (ii) Yes (1)/No (0)
- (iii) Yes (1)/No (0)

Did employees/the union have an impact on the implementation of each change?

- (i) Yes (1)/No (0)
- (ii) Yes (1)/No (0)
- (iii) Yes (1)/No (0)

If yes to either, was this through: union (1), workers committee (2), works council (3), individual workers directly (4), other (specify _____)?

- (i) _____
- (ii) _____
- (iii) _____

Did the involvement: stop or delay implementation (-1), have no impact (0), facilitate or encourage the changes (1)?

- (i) _____
- (ii) _____
- (iii) _____

What problems, if any, have you experienced in implementing each change?

- (i) _____
- (ii) _____
- (iii) _____

Choose from: technical problems (1), slow implementation (2), higher cost than planned (3), worker resistance (4), management resistance (5), other (specify _____)

- Following changes in the organisation of production, in the past four years, what have been seen in respect of ...
- Stock holdings as percentage of sales? Increase (1) Decrease (0) No change (3) Don't know (0)
- Machine down time? Increase (1) Decrease (0) No change (3) Don't know (0)
- Rejected items in production, as percentage? Increase (1) Decrease (0) No change (3) Don't know (0)
- Speed of production throughput? Increase (1) Decrease (0) No change (3) Don't know (0)

Linkages

The following questions concern those you and your management team know who are useful to you in your business (ie they provide information, advice c

	How many are useful to you?	How often are you in contact with them on average?	Has the value of the relationship increased (1) not changed (0) or declined (-1) in the last five years?
Equipment suppliers			
Input suppliers			
Customers			
In the same line of business as you in Zimbabwe			
In a different line of business in Zimbabwe			
In the same line of business as you abroad			
In a different line of business abroad			
Bank officials			
Civil servants			
Politicians			
People involved in research or science			
People involved in providing management ad			

Who are your three major local input suppliers: (i) _____
(ii) _____
(iii) _____

Institutional Factors

How many commercial disputes relating to unclearly negotiated deals, or ventures with other companies, have you had in the past five years? _____

Please give details of the most recent, now resolved _____

Was it with

How was it resolved? _____

Did this involve

How many disputes relating to tendering, have you had in the past five years? _____

Please give details of the most recent, now resolved _____

Was it with

How was it resolved? _____

Did this involve

How many disputes relating to producing against orders, have you had in the past five years? _____

Please give details of the most recent, now resolved _____

Was it with

How was it resolved? _____

Did this involve

How many disputes relating to supplying on credit or collecting debts, have you had in the past five years? _____

Please give details of the most recent, now resolved _____

Was it with

How was it resolved? _____

Did this involve

a private arbiter (1), public official (2), business association (3), police (4), lawyer (5), other (specify _____)

an individual (1), firm (2), Govt/Public Agency (3), Foreign party (4), Other (specify _____) (5)

a private arbiter (1), public official (2), business association (3), police (4), lawyer (5), other (specify _____)

an individual (1), firm (2), Govt/Public Agency (3), Foreign party (4), Other (specify _____) (5)

a private arbiter (1), public official (2), business association (3), police (4), lawyer (5), other (specify _____)

an individual (1), firm (2), Govt/Public Agency (3), Foreign party (4), Other (specify _____) (5)

a private arbiter (1), public official (2), business association (3), police (4), lawyer (5), other (specify _____)

an individual (1), firm (2), Govt/Public Agency (3), Foreign party (4), Other (specify _____) (5)

a private arbiter (1), public official (2), business association (3), police (4), lawyer (5), other (specify _____)

How many commercial disputes relating to unclear property rights have you had in the past five years?

Please give details of the most recent, now resolved

Was it with _____
an individual (1), firm (2), Govt/Public Agency (3), Foreign party (4), Other (specify _____) (5)

How was it resolved?

Did this involve _____
a private arbiter (1), public official (2), business association (3), police (4), lawyer (5), other (specify _____)

How many disputes relating to hiring or dismissing, have you had in the past five years?

Please give details of the most recent, now resolved

Was it with _____
an individual (1), trade union (2), Govt/Public Agency (3), Other (specify _____) (4)

How was it resolved?

Did this involve _____
a private arbiter (1), public official (2), business association (3), police (4), lawyer (5), other (specify _____)

How many disputes relating to other labour matters, have you had in the past five years?

Please give details of the most recent, now resolved

Was it with _____
an individual (1), trade union (2), Govt/Public Agency (3), Other (specify _____) (4)

How was it resolved?

Did this involve _____
a private arbiter (1), public official (2), business association (3), police (4), lawyer (5), other (specify _____)

Business Support Services

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In the past four years, how many times have you received assistance from government programmes, or agencies, other local organisations or NGO's, or foreign organisations, under the following categories?

Training _____

Financial Assistance _____

Technology _____

Export Assistance _____

Business Information _____

Describe the three most useful incidents of assistance (nature of service, provider, frequency, payment.)

i) _____

ii) _____

iii) _____

Describe the benefits to your firm's operations

i) _____

ii) _____

iii) _____

Suggest how the assistance could have been improved to make it more useful

i) _____

ii) _____

iii) _____

General

Do you have any objections to my examining the CSO - Census of Production records on your company? Yes (1)/No (0)
Will it be possible to have a short follow-up interview at some stage in the future to clarify any areas of misunderstanding? Yes (1)/No (0)

Production Survey: Process Information

Name of Firm _____ (code _____) Date _____
 Name of Respondent _____ (code _____) Position in Firm _____

Productivity

Worker Productivity is defined as number of units produced per worker per day

How has worker productivity changed over the last 5 years? Increase (1) Decrease (0) No change (3) Don't know (0)
 How has worker productivity changed over the last 30 years? Increase (1) Decrease (0) No change (3) Don't know (0)

What are the three most recent attempts have you made to improve productivity in the last five years?

- (i) _____ Expanded scope of training (1), introduction of new plant (2), changed production process (3),
- (ii) _____ changed machinery lay-out (4), introduction of preventative maintenance (5), improved quality control (6),
- (iii) _____ extended working hours (7), other (Specify _____) (8)

What has been the response of worker productivity to each of the above? (Comments)

- (i) Increase (1) Decrease (0) No change (3) Don't know (0)
- (ii) Increase (1) Decrease (0) No change (3) Don't know (0)
- (iii) Increase (1) Decrease (0) No change (3) Don't know (0)

Have you introduced additional training to improve the skills of your workers to adapt to each of these changes?

- (i) Yes (1)/No (0)
- (ii) Yes (1)/No (0)
- (iii) Yes (1)/No (0)

Have you made any moves to increase team working during the past five years? Yes (1)/No (0)

If yes, what has been the response of worker productivity? Decrease (0) No change (3) Don't know (0)

How do you compare your productivity to that of other firms in the same industry? Increase (1)

- Small local Higher (3), Same (2), Lower (1), Don't know (0)
- Large local Higher (3), Same (2), Lower (1), Don't know (0)
- Foreign Higher (3), Same (2), Lower (1), Don't know (0)

If in the last 12 months you had too little work for the workforce lasting a month or more - apart from retrenching what other response did you take, if a

None (0), Cut normal hours (1), Cut Overtime (2), Encourage resignations (3), Extend vacations (4),

Offer early retirement (5), Cut wages (6), Reassign tasks (7), Other (specify _____) (9), don't know (99)

Over the past three months, what has been the average daily rate of unauthorised absenteeism, excluding normal leave, sickness, training etc?
 _____ %

How has this changed over the last 5 years?

Increase (1) Decrease (0) No change (3) Don't know (0)

Production Training and Skills

What would you estimate to be average literacy and numeracy rates among unskilled and semi-skilled workers?

literacy	numeracy
Unskilled	
Semi-skilled	

On average, how much education do you estimate your unskilled production workers have had? _____ (years)

On average, how much education do you estimate your semi-skilled production workers have had? _____ (years)

On average, how much education do you estimate your supervisors/foremen have had? _____ (years)

On average, how much education do you estimate your technicians have had? _____ (years)

What types of training have your staff received in the past 12 months?

(Indicate number of workers that have experienced each type of training and average length of training)

	Unskilled Worker	Semi-Skilled Worker	Artisans	Foremen/ Supervisors	Technicians	Average no. of Days
Basic Educational (1)						
On-the-job (2)						
Short term in-house course (3)						
Short term external course (4)						
Longer term external course (6)						
Sponsored Degree (7)						
Professional qualification (8)						
Other (specify _____) (9)						

In the past 12 months what percentage of your firm's workers receiving training were production workers? _____ %

What percentage of production workers receiving training were being trained to improve job performance? _____ %

What percentage of production workers receiving training were being trained for upgrading/promotion? _____ %

What new types of training have you introduced in the last five years?

(Choose from above list)

What types of training have you dropped in the last five years?

(Choose from above list)

Technology Change and Innovation

Do you have an established system for employees to make suggestions for production process improvements? Yes (1)/No (0)

Are there rewards for suggestions adopted? Yes (1)/No (0)

Up to what level of employee are rewards awarded?

How many suggestions from workers for changes in production processes have you received and implemented during the past year?

- | | | |
|--------------------------------|----------|-------------|
| Unskilled production worker | Received | Implemented |
| Semi-skilled production worker | _____ | _____ |
| Artisan | _____ | _____ |
| Supervisor/Foreman | _____ | _____ |
| Technician | _____ | _____ |
| Engineer | _____ | _____ |
| Manager | _____ | _____ |

List the main three technical changes in the production process, during the past five years.

- (i) _____
 - (ii) _____
 - (iii) _____
- When did you introduce the changes?
- (i) _____
 - (ii) _____
 - (iii) _____
- What was the principal cause of each of the changes?
- (i) _____
 - (ii) _____
 - (iii) _____

Could include: downsizing of production process (1), energy saving (2), capacity stretching (3), manufacture of new tools, dies, fixtures (4), development of new processes (5), other (specify _____)

What were the sources of information/advice on the technology introduced?

- (i) _____
 - (ii) _____
 - (iii) _____
- Choose from: parent company (1), foreign equipment supplier (2), local equipment supplier copying (4), developed in-house (5), foreign consultant (6), local consultant (7), other (specify (_____)

Did the change involve acquisition of any foreign licenses?

- (i) Yes (1)/No (0)
- (ii) Yes (1)/No (0)
- (iii) Yes (1)/No (0)

If you received any external help on commissioning plant or installing equipment: what did you receive, and who supplied it?

Choose from above list

- Type of help
- (i) _____
 - (ii) _____
 - (iii) _____
- Supplier
- (i) _____
 - (ii) _____
 - (iii) _____

What was the cost of each change?

- (i) _____
- (ii) _____

- (iii) Did employees/the union have an impact on the decision to introduce each change?
 - (i) Yes (1)/No (0)
 - (ii) Yes (1)/No (0)
 - (iii) Yes (1)/No (0)

Did employees/the union have an impact on the implementation of each change?

- (i) Yes (1)/No (0)
- (ii) Yes (1)/No (0)
- (iii) Yes (1)/No (0)

If yes to either, was this through: union (1), workers committee (2), works council (3), individual workers directly (4), other (specify _____)

- (i) _____
- (ii) _____
- (iii) _____

Did the involvement: stop or delay implementation (-1), have no impact (0), facilitate or encourage the changes (1)?

- (i) _____
- (ii) _____
- (iii) _____

Did the technical change lead to a change in employment?

- (i) More (1), Less (2), No change (0)
- (ii) More (1), Less (2), No change (0)
- (iii) More (1), Less (2), No change (0)

Did the change require a change in the range of tasks performed by production workers?

- (i) More (1), Less (2), No change (0)
- (ii) More (1), Less (2), No change (0)
- (iii) More (1), Less (2), No change (0)

Did the change lead to a change in the complexity/technical knowledge required of production workers, on average?

- (i) More (1), Less (2), No change (0)
- (ii) More (1), Less (2), No change (0)
- (iii) More (1), Less (2), No change (0)

Explain where there were major discrepancies in realising the benefits from those expected

- (i) _____
- (ii) _____
- (iii) _____

What problems, if any, have you experienced in implementing each change?

- (i) _____
 - (ii) _____
 - (iii) _____
- Choose from: technical problems (1), slow implementation (2), higher cost than planned (3), worker resistance (4), management resistance (5), other (specify { _____ })

Following these changes in production technology, what have been seen in respect of ...

Worker Productivity? Increase (1) Decrease (0) No change (3) Don't know (0)
 Machine down time? Increase (1) Decrease (0) No change (3) Don't know (0)
 Bottlenecks in production? Increase (1) Decrease (0) No change (3) Don't know (0)
 Rejected items in production, as %? Increase (1) Decrease (0) No change (3) Don't know (0)
 Speed of production throughput? Increase (1) Decrease (0) No change (3) Don't know (0)
 Other (specify _____) Increase (1) Decrease (0) No change (3) Don't know (0)

Have any of your local competitors introduced new technology in the manufacture of similar products, during the past five years? Yes (1)/No (0)
 If yes, when? _____
 What has been your response, if any? _____

Machinery

Regarding your machinery, give the number of machines, their average age and their replacement value under the following categories
 Number Average Age (years) Current Replacement Value

Standard _____
 NC _____
 CNC _____
 Robots _____

Have you experienced machine downtime during the last year because of:
 (tick each that apply)

	Standard	NC	CNC	Robots
Operator skills being inadequate				
Inadequate in-house maintenance				
Lack of available spare parts				
Lack of local access to skilled servicing				
Inadequate Planning				
Worker disturbances				
Other (specify)				

Under each of the above factors, indicate how they have changed over the past five years

Operator skills being inadequate Improved (1) Worse (0) No change (3) Don't know (0)
 Inadequate in-house maintenance Improved (1) Worse (0) No change (3) Don't know (0)
 Lack of available spare parts Improved (1) Worse (0) No change (3) Don't know (0)
 Lack of local access to skilled servicing Improved (1) Worse (0) No change (3) Don't know (0)
 Inadequate Planning Improved (1) Worse (0) No change (3) Don't know (0)
 Worker disturbances Improved (1) Worse (0) No change (3) Don't know (0)
 Other (specify) Improved (1) Worse (0) No change (3) Don't know (0)

Do your machine operators also set-up the machines? Yes (1)/No (0)
 What level of workers are operating the machines?

IF YES, DISREGARD THE FOLLOWING QUESTIONS FOR SETTERS

(tick each that apply)

Unskilled workers	Standard	NC	CNC	Robots
Semi-skilled workers				
Artisans				

What level of workers are setting the machines?
(tick each that apply)

Unskilled workers	Standard	NC	CNC	Robots
Semi-skilled workers				
Artisans				

In the case of machinery introduced in the last five years, which of the following categories of worker have fully mastered its use?
(tick each that apply)

Unskilled workers	Standard	NC	CNC	Robots
Semi-skilled workers				
Artisans				

What type and period of training are the operators and setters given?
(put period in number of weeks where applicable)

On-the-job (2)	Operator	Setter
Short term in-house course (3)		
Short term external course (4)		
Longer term external course (6)		
Other (specify _____) (9)		

Maintenance

Is there an established routine for preventative maintenance of equipment and machinery? Yes (1)/No (0)

What is the frequency of servicing the machines?

How has this changed during the past five years?

How many times on average per month have you had machines breaking down during the past year?

What has been the average downtime in days per month over the past year?

How many days of production have you lost on average per month through breakdown during the past year?

How does this compare with the previous year?

How does this compare with five years ago?

Who is in charge of maintenance and repair?

Who fixes minor breakdowns?

To what level are you able to maintain in-house?

Totally dependent on outside help (1), oiling, replacing accessible items (2), same, plus strip most machines and replace standard parts (3),

Increased (1) Decreased (2) No change (3) Don't know (0)

Increased (1) Decreased (2) No change (3) Don't know (0)

Increased (1) Decreased (2) No change (3) Don't know (0)

Increased (1) Decreased (2) No change (3) Don't know (0)

Increased (1) Decreased (2) No change (3) Don't know (0)

Increased (1) Decreased (2) No change (3) Don't know (0)

Increased (1) Decreased (2) No change (3) Don't know (0)

Increased (1) Decreased (2) No change (3) Don't know (0)

Increased (1) Decreased (2) No change (3) Don't know (0)

Increased (1) Decreased (2) No change (3) Don't know (0)

Semi-skilled worker (1), artisan (2), technician (3), specialised maintenance personnel (4), external maintenance personnel (5), apprentices (6),

Totally dependent on outside help (1), oiling, replacing accessible items (2), same, plus strip most machines and replace standard parts (3),

(iii) _____
 Briefly summarise how each was solved.
 (i) _____
 (ii) _____
 (iii) _____

In each case indicate who was involved in solving the problem
 (i) In-house personnel (1), Outside local help (2), Outside foreign help (3), Other (specify _____) (4)
 (ii) In-house personnel (1), Outside local help (2), Outside foreign help (3), Other (specify _____) (4)
 (iii) In-house personnel (1), Outside local help (2), Outside foreign help (3), Other (specify _____) (4)

Quality

What standards or norms for the final products or raw material inputs do you use?

- (i) National standards _____
- (ii) International standards _____
- (iii) ISO 9000 series _____

When did you adopt each?

- (i) _____
- (ii) _____
- (iii) _____

What was the principal cause in each case?

- (i) _____
- (ii) _____
- (iii) _____

If you received any external advice on adopting the standards: what did you receive, and who supplied it?

- (i) _____
Type of advice _____
Supplier _____
- (ii) _____
- (iii) _____

Do you have a system of statistical quality control? Yes (1)/No (0)

Support Services

In addition to those previously mentioned, have you received any support services for the following technical activities, in the past five years?
 Quality control (1), repair and maintenance (2), technical assistance (3), training of personnel (4), instrument calibration (5),
 Other (specify _____)

ZIMBABWE: ENGINEERING SECTOR DETAILED STUDY

Employee Survey

Interviewer _____ Date _____

Name of Firm _____ code [_____]

Gender Male [0] Female [1]

JOB TITLE _____ code [_____]

Work

- 1 How many years ago did you join the firm? years
- 2 What was your first job title in this firm?
- 3 What were you doing immediately before joining?
*School [1], Unemployed [2], Working for another firm at the same level [3],
 Working for another firm at lower level [4], Other [specify _____] [5]*
- a. If [2], was your first job after school with this firm? Yes [1]/No [0]
- * 4 What is your present status?
Casual [1], Contract [2], Permanent [3], Probationary [4]
- * 5 What was your initial status?
Casual [1], Contract [2], Permanent [3], Probationary [4], Don't know [99]
- 6 How many hours did you work PER DAY last month on average? hours
- * 7 Did you have days off in the last three months when you were sick and you were paid? Yes [1]/No [0]
 a. if yes, how many?
- * 8 Do you perform the same tasks every day? Yes [1]/No [0]
- 9 Do you work in a shift? Yes [1]/No [0]
- * 10 How has the number of tasks you are required to do per hour on average changed during the past year?
increased [1], decreased [0], no change [3], don't know [99]
- * 11 Have you worked more as part of a team in the past year, than before? Yes [1]/No [0]

Education and Training

- 12 How many years were you in full-time education? years
- 13 What is your highest educational qualification?
*None [0] A'levels [3] Degree [6]
 Primary leaving [1] Vocational School [4] Other [specify _____] [7]
 O' levels [2] Polytechnic [5]*
- 14 Which of the following did you learn in school?
*Science [1] Technical Drawing [3] Computing [5]
 Metal-working [2] Technology [4] None [0]*
- 15 What training did you get after leaving school before taking up work?
None [0], Vocational [1], Other [specify _____] [2]

16 What training have you had since you started with this firm? *TICK ALL THAT APPLY*

Basic Educational [1]	<input type="checkbox"/>
On-the-job [2]	<input type="checkbox"/>
Short term in-house course [3]	<input type="checkbox"/>
Short term external course [4]	<input type="checkbox"/>
Apprenticeship [5]	<input type="checkbox"/>
Longer term external course [6]	<input type="checkbox"/>
Sponsored Degree [7]	<input type="checkbox"/>
Professional qualification [8]	<input type="checkbox"/>

- 17 If you put [2] - On-the-job, in 16 above:
 a. Who was teaching you?
*worker at same level [1], worker at next level [2], artisan [3]
 technician [4], supervisor [5]*

b. Did you have an evaluation or test?

Yes [1]/No [0]

18 If you put any of the courses [3], [4], or [6], in 16 above:

a. Over what period did the most recent course take place?

days/weeks

b. Was it full-time [1] or part-time [2]?

c. Did anyone explain why you were going on the course before it started?

Yes [1]/No [0]

d. Did anyone ask you what you had gotten out of it afterwards?

Yes [1]/No [0]

e. Who was teaching you?

In-house trainers [1], line managers or supervisors [2], public training establishment [3], private training establishment [4], consultants [5], other [specify _____] [6]

f. Did you have an evaluation or test?

Yes [1]/No [0]

* 19 Did you have an annual performance review in the last year?

Yes [1]/No [0]

a. If yes, did you discuss training at the review?

Yes [1]/No [0]

b. Did you then do the training discussed?

Yes [1]/No [0]

20 Have you ever had a request for training turned down?

Yes [1]/No [0]

* 21 In the last five years, have you ever asked to be given a different job in the company?

Yes [1]/No [0]

a. If yes, did you get the job you asked for?

Yes [1]/No [0]

* 22 In the last three years, have you learned any new skills, which you now use?

Yes [1]/No [0]

a. If yes, what? computers [1], new production machinery [2], new technology [3]

new maintenance practices [4], new quality control practices [5],

other [specify _____] [6]

Work History and Remuneration

23 Have you ever been unemployed?

Yes [1]/No [0]

a. If yes, how many times?

b. In total, how long have you been unemployed, since leaving school?

months/years

24 Why did you leave your previous job?

Retrenched [1], Better wage offer [2], Dissatisfied with work [3], Disagreement with bosses [4], Other [specify _____] [5]

25 Are you paid per day or week or month?

Daily [1], Weekly [2], Monthly [3]

26 What was your basic wage/salary when you started with the company, or in 1991, whichever was more recent?

a. BEFORE deductions

\$

b. AFTER deductions?

\$

27 What is your present basic wage/salary BEFORE deductions?

\$

28 How much overtime did you earn per month, on average, during the last three months?

\$

* 29 What other benefits do you get in cash?

13th cheque [1], medical aid [2], pension [3], other [specify _____] [4]

a. What is their approximate total monetary value per month?

* 30 What other benefits do you get which are not in cash?

transport [1], education [2], housing [3], other [specify _____] [4]

31 What is your present take-home basic wage/salary after deductions?

\$

32 Have you had a headache while at work in the last three months?

Yes [1]/No [0]

33 If female, what period of full-pay maternity leave do you get, if any?

weeks/months

34 How many days paid holiday do you get per year?

days

35 Do you get time off for family funerals?

Yes [1]/No [0]

a. Is this taken from your annual leave?

Yes [1]/No [0]

b. How many family funerals did you go to on working days in the last 6 months?

* 36 If you have a problem at home, do you talk to anyone in the company about it?

Yes [1]/No [0]

Who? _____

37 Have you ever had an advance on your salary?

Yes [1]/No [0]

a. What was the maximum advance or amount of credit given to you?

\$

b. Was the amount repaid larger than the original sum advanced?

Yes [1]/No [0]

* 38 Has anyone outside the company given you money for tasks you have done for them in the last year?

Yes [1]/No [0]

a. If yes, what for? _____

- * 39 Do you do something for yourself outside the company, which gives you income? Yes [1]/No [0]
 a. If yes, what? _____

General

- 40 Are you a member of a trade union? Yes [1]/No [0]
 a. If no, have you ever been a member of a trade union? Yes [1]/No [0]
- 41 Are you a member of a workers committee? Yes [1]/No [0]
 a. If no, have you ever been a member of a workers committee? Yes [1]/No [0]
- * 42 Have you ever been asked for your opinion about new technology or new ways of organising your work? Yes [1]/No [0]
 a. How and when? _____
- * 43 Have you ever been asked to give your ideas for what the company should do in the future? Yes [1]/No [0]
 a. How and when? _____
- * 44 How do you learn about the company's plans?
*Don't [0], Staff Circular [1], General Meeting [2], Workers' Committee [3],
 other [specify _____] [4]*
- 45 Do you receive information on a regular basis on ?
 a. Work accidents/injuries Yes [1]/No [0]
 b. Labour productivity Yes [1]/No [0]
 c. Labour costs Yes [1]/No [0]
 d. Sales Yes [1]/No [0]
 e. Other Financial Information Yes [1]/No [0]
- 46 When you go to the production manager's office are you offered a chair? Yes [1]/No [0]
- 47 Do you share a toilet with your supervisor? Yes [1]/No [0]
- 48 Do you share a toilet with managers? Yes [1]/No [0]
- * 49 If you have a problem at work, do you talk to anyone at work about it? Yes [1]/No [0]
 a. If yes, who? _____
- 50 Does the production manager know your name? Yes [1]/No [0]
- * 51 Have you ever discussed your views [even if different] with your manager/supervisor, on:
 a. pay Yes [1]/No [0]
 b. working hours Yes [1]/No [0]
 c. promotion Yes [1]/No [0]
 d. training Yes [1]/No [0]
 e. health and safety Yes [1]/No [0]
- 52 How many breaks from work do you get during the day?
- 53 What form of refreshments are you provided with for free during the day?
Food - snack [1] Food - lunch [2] Drinks [3] None [0]
- 54 Do you have a company canteen with food cheaper than that available outside? Yes [1]/No [0]
- 55 When you achieve a new production record, are there on-duty celebrations? Yes [1]/No [0]
- 56 At your company, is there a ... ?
*Worker of the month [1], worker of the year [2], nothing [0], don't know [99],
 other [specify _____] [3]*
- * 57 Have any suggestions you have made for changing the production process ever been used? Yes [1]/No [0]
- * 58 Have you ever been given a reward for contributing an idea for changing the production process? Yes [1]/No [0]
- 59 Have you ever been given a reward for long service? Yes [1]/No [0]
- * 60 Have you ever taken part in any kind of industrial action? *[give examples]* Yes [1]/No [0]
 a. If yes, what form did that take?
Strike [1], Demonstration [2], Work to rule [3], Other [specify _____] [4]
- 61 Have you taken part in a company sport or social activity in the last year? Yes [1]/No [0]
- 62 Do you have access to incoming telephone messages during the day?
Routinely [1] Emergencies only [2] Not at all [0]

63 How many accidents involving injury to workers have there been at your work place in the last year?

* 64 What is the best thing that ever happened to you in the company?

* 65 What do you like best about working in the company?

* 66 If you could change anything about your working conditions, what would you change?

ORGANISATIONS SURVEYED

Government

Ministry of Industry and Commerce (MIC)
Ministry of Labour (MoL)
Ministry of Finance (Monitoring and Implementation Unit (MIU) - responsible for ESAP)
Public Service Commission (PSC)
Ministry of National Affairs, Employment Creation and National Cooperatives (MNA)

Quasi-Government Organisations

Industrial Development Corporation (IDC)
Zimbabwe Iron and Steel Corporation (ZISCO)
Zimbabwe Investment Centre (ZIC)
ZimTrade

Employers and Representative Organisations

Confederation of Zimbabwean Industry (CZI)
Zimbabwe National Chamber of Commerce (ZNCC)
Indigenous Business Development Centre (IBDC)
Employers' Confederation of Zimbabwe (EMCOZ)
Engineering Employers' Association of Zimbabwe (EEAZ)
Steel Association
Institute of Foundrymen

Labour Organisations

National Employment Council for the Engineering and Iron and Steel Industry (NEC)
National Engineering Workers Union (NEWU)
Zimbabwe Confederaion of Trade Unions (ZCTU)

Training Organisations

Ministry of Higher Education (MHE)
University of Zimbabwe, Mechanical Engineering Department
National University of Science and Technology (NUST), Industrial Engineering Dept.
Bulawayo Polytechnic/Westgate Vocational Training Centre (public sector organisations)
Delta Engineering Training Centre (private sector training organisation)
ZIMDEF (National Manpower Development Fund)
Zimbabwe Institution of Engineers (ZIE)
National Manpower Advisory Council (NAMACO)

Scientific and Technical Organisations

Science and Industrial Research and Development Centre (SIRDC)
Standards Association of Zimbabwe (SAZ)

Production Organisation Institutions

Price Waterhouse
Independent consultants

ZIMBABWE INDUSTRY STUDY: ORGANISATIONAL SURVEY QUESTIONNAIRE

Name of Organisation _____ [code _____] Date _____
 Name of Respondent _____ [code _____] Position in Organisation _____

History

When was your organisation founded? _____
 What was its original name? _____
 What was its original mandate? _____
 When did it change its name to the present one? _____
 Why? _____
 Is it an organisation with members? _____ Yes [1]/No [0]

Data Collection and Production

What information do you collect on a regular basis? _____
 What do you do with the information? [store, process, analyse, disseminate] _____
 What publications do you distribute regularly? _____
 How often? _____
 On average, what percentage of the data you collect is used in your publications? _____ %
 How has this changed over the last five years? _____
 Are they for members only? Yes [1]/No [0]
 If not, do you get revenue from the sale of those not for members? Yes [1]/No [0]
 Do you carry out or sponsor research? Yes [1]/No [0]
 If yes, what? _____
 What do you do with the findings from the research? _____

Linkages

The following questions concern those you and your management team know who are useful to you in carrying out your

	How many are useful to you?	How often are you in contact with them on average?
Users of your services - companies		
Users of your services - individuals		
Providing similar services as you in Zimbabwe		
Providing different services in Zimbabwe		
Providing similar services as you abroad		
Providing different services as you abroad		
Organisations training professionals and technicians		
Civil servants		
Politicians		
Financial donors		
Technical Cooperating Partners		
NGOs		

List the three organisations to which you are most responsive
 (i) _____
 (ii) _____
 (iii) _____

List the three organisations which are most responsive to you
 (i) _____
 (ii) _____
 (iii) _____

Where are there communication and coordination deficiencies and why?

 What have attempts have you made to overcome these problems in the past five years?

Constituent Groups

Which of the following are used in taking major strategic decisions within your organisation?
 TICK WHERE APPLICABLE

	Often	Sometimes	Rarely
Executive decision			
Selective consultation with members			
Open voting			
Ad hoc			
Other [specify _____]			

List the three sub-groups among your constituents that are most influential on your programmes

- (i) _____
- (ii) _____
- (iii) _____

Capacity

What problems, if any, do you have in carrying out your main functions?

What actions are you taking to address these?

Does recruitment take place on an open and competitive basis? Yes [1]/No [0]

Is performance considered in deciding on the following rewards for staff ...

Salary Yes [1]/No [0]

Bonuses Yes [1]/No [0]

Promotion Yes [1]/No [0]

To what extent are the following the key motivating rewards for staff?

Performance based Not [0], Slightly [1], Reasonably [2], Greatly [3], Principally[4]

Increased autonomy/empowerment Not [0], Slightly [1], Reasonably [2], Greatly [3], Principally[4]

Personal recognition Not [0], Slightly [1], Reasonably [2], Greatly [3], Principally[4]

Professional identity/shared norms Not [0], Slightly [1], Reasonably [2], Greatly [3], Principally[4]

Do staff have annual reviews at which training is discussed? Yes [1]/No [0]

Do staff have annual reviews at which career plans are discussed? Yes [1]/No [0]

What have been the principal types of training used in the last year?

Apart from training, what else have you done in the past 5 years to improve the quality of work of your staff?

Are your salary scales flexible enough to attract your desired levels of qualifications and experience Yes [1]/No [0]

To what extent are roles and responsibilities clearly defined within your organisation?
Not [0], Slightly [1], Reasonably [2], Greatly [3], Principally[4]

To what extent are people held accountable for the implementation of decisions taken within the organisation?
Not [0], Slightly [1], Reasonably [2], Greatly [3], Principally[4]

To what extent are staff encouraged to use their initiative, innovate and take risks?
Not [0], Slightly [1], Reasonably [2], Greatly [3], Principally[4]

Organisational Strategy

Do you have a plan that guides your operations? Yes [1]/No [0]

IF YES, PLEASE ANSWER THE FOLLOWING:

Is it any of the following? *[tick all that apply]*

Annual [1] Multi-year [2] Rolling [3]

Which of the following does it deal with, if any? *[tick all that apply]*

Investment [1] Recruitment [2] Training [3] Organisational changes [4] Marketing [7]

Financial Objectives [8] Other [specify _____]

Who of the following are consulted in its preparation? *[tick all that apply]*

Members [1], Professional Staff [2], Non-Professional Staff [3], Managers [4], Other [specify _____]

Once prepared, how is it communicated?

It is not [0], membership or client circular [1], Other [specify _____]

IF NO, PLEASE ANSWER THE FOLLOWING:

How do you set your strategy?

How often is it reviewed?

6 monthly [1] Annually [2] Ad hoc [3]

Who of the following are consulted in its preparation? *[tick all that apply]*

Members [1], Professional Staff [2], Non-Professional Staff [3], Managers [4], Other [specify _____]

Once prepared, how is it communicated?

It is not [0], membership or client circular [1], Other [specify _____]

IN EITHER CASE

List the main three changes in your STRATEGY in the past five years? *[Include changes in goals, objectives, focus e.*

(i) _____

(ii) _____

(iii) _____

When did you introduce the changes?

(i) _____

(ii) _____

(iii) _____

What was the principal cause of each of the changes?

(i) _____

(ii) _____

(iii) _____

What were the critical success factors in ensuring achievement?

(i) _____

(ii) _____

(iii) _____

How often is progress checked against the plan?

(i) _____

(ii) _____

(iii) _____

What have been the major outcomes of each of the changes [quantify benefits, where possible]?

- (i) _____
- (ii) _____
- (iii) _____

What problems, if any, have you experienced in implementing each strategy?

- (i) _____
- (ii) _____
- (iii) _____

Organisational Attributes

Rate your organisation on the following criteria

Flexible	1	2	3	4	5	Rigid
Teamwork	1	2	3	4	5	Individual work
Participatory management		2	3	4	5	Autocratic
Clear/shared vision/goals		2	3	4	5	Lack of vision/goals
Accountable to constituents		2	3	4	5	Autonomous
Timely decisions	1	2	3	4	5	Slow decision making

Effectiveness

Have you had any performance audits or evaluations in the past five years? Yes [1]/No [0]

If yes, how often? _____

What was the scope of the most recent? _____

Why? _____

Did it assess cost-effectiveness of your operations? Yes [1]/No [0]

What were its three main findings?

- (i) _____
- (ii) _____
- (iii) _____

What changes were subsequently introduced as a result?

- (i) _____
- (ii) _____
- (iii) _____

LIST OF INTERVIEWEES

The following list is necessarily incomplete, but indicates most of the respondents from outside the surveyed firms.

Name	Organisation	Position
Mr. Jaya	Bulawayo Technical College	Vice Principal and ex-head of Mechanical Engineering Dept.
George Makings	Conciliation and Arbitration Centre	Lawyer
Much Masunda	Conciliation and Arbitration Centre	Director
David Parirenyatwa	CSO	Deputy Director
Ms. Mufakose	CSO	Industrial Sector
Mr. Taruvinga	CSO	Industrial Sector
John Deary	CZI	Ex-President
Farai Zizhou	CZI	Senior Economist
Joe Foroma	CZI	Chief Executive
Jim Wadhams	Delta Engineering Training Centre/ EEAZ	Head/President
David Tarinike	DETC	Trainer
TG Mushambi	EMCOZ	Consultant
Lloyd Mutandi	EMCOZ	Executive Director
Patrick Lloyd	Engineering Employers Association of Zimbabwe	Administrative Assistant
Joseph Muzulu	Finhold	Chief Economist
Mr. Newn	Foundries Association	Mashonaland Branch Chairman
Mrs. Behr	GTZ	Head of Office
Mr. Metzke	GTZ	Training Advisor
Mr. Monywarara	IDC	Deputy Director
Benson Zwizwai	IDS - UZ	Researcher
Brian Raftopoulos	IDS - UZ	Deputy Director
Jacob Kalyati	IDS - UZ	Researcher
Lloyd Sachikonye	IDS - UZ	Director
Torkel Alfthan	ILO/SAMAT	Training Specialist
Peter Peek	ILO/SAMAT	Director
Roland Offord	Institution of Engineers	Chief Executive
Mr. Bhunu	Labour Relations Tribunal	Deputy Chairman
Brian Holloran	Labour Relations Tribunal	Member
Mrs TC Mudzi	Ministry of Higher Education	Deputy Director - Research
CG Chivanda	Ministry of Higher Education	Deputy Director - Manpower Planning
NNM Munetsi	Ministry of Higher Education	Deputy Director - Vocational/Technical Education

Mr. Ramajan	Ministry of Higher Education	Vocational/Technical Education
Mr. Metzke	Ministry of Higher Education	GTZ Adviser-Curriculum Development
Mr. Ndlovu	Ministry of Industry and Commerce	Under Secretary
Owen Tshabangu	Ministry of Industry and Commerce	Deputy Secretary
Vincent Kwenda	Ministry of Industry and Commerce	Under Sec [research/plan]
Paul Dzviti	Ministry of Labour	Chief Labour Relations Officer
Ms. M. Gwatidzwa	Ministry of Labour	Secretary of Retrenchment Committee
Mr. Churu	Ministry of Finance	Chief Economist, Macro
Luxon Zembe	NAMACO	Vice Chairman
Oliver Kabasa	NEWU	Late General Secretary
Mr. Tarupiwa	NEWU	General Secretary
Mr. Clarke	NEC for Engineering and Iron and Steel Industry, Bulawayo	Senior Secretary
E E Sharpe	NEC	General Secretary
Mr. Nezandoye	NEC	Senior Secretary
Dr. Onwubolu	NUST: Industrial Engineering	Chairman
Mr. Mariasingham	NUST: Electronic Engineering	Chairman
Karl Anders Larsson	SIDA	Senior Economist
Prof. Chetsanga	SIRDC	Head
Dr. Williams	Standards Association of Zimbabwe	Director
Maureen Mutasa	Standards Association	Deputy Director
Roland Deschamps	UNIDO	Country Representative
Sandy Shapleigh	USAID	Chief, Private Enterprise Division
Prof. Tony Hawkins	UZ: MBA programme	Head
Jeremy Ascough	UZ: Development Technology Centre	Director
Charles Mbohwa	UZ:Mech Eng	Chairman
Mr. Nyoni	Westgate Vocational Training Centre	Principal
David Cook	World Bank	Resident Representative
Kapil Kapoor	World Bank	Deputy Resident Representative
Morgan Tsvangirai	ZCTU	Secretary General
Godfrey Kanyenze	ZCTU	Chief Economist
Ivana Rackieowskaya	Zimbabwe Investment Centre	Researcher
Freddy Chawasarira	ZIC	Assistant Director
Rose Mazula	ZIC	Assistant Director
T Huye	ZIC	Researcher
Peter Robinson	Zimconsult	Consultant
Morrison Sifelani	Zimtrade	Chief Executive
Mrs. Hove	Zimtrade	Manager
Edmore Tobaiwa	ZNCC	Economist
Wonder Maisiri	ZNCC	Chief Executive
Danny Meyer	ZNCC	President

EXAMINING ZIMBABWE DATA - ISSUES AND PROBLEMS

The main text discusses the problems of making assessments of dynamic change in industry on the basis of any conventional sectoral data, however accurate it might be. It is also important to recognise the limitations of the data, as produced by the CSO.

What is Manufacturing?

The definition of what is manufacturing and what is not is rather fuzzy at the boundaries. For example, in Zimbabwe:

"all supplementary [mining] operations, such as drilling, breaking, milling, cleaning and grading, and establishments operating on a mining site as refineries/smelters of non-ferrous or precious metals, are included in this division. ... Excluded however are mines and quarries operated by manufacturers as a source of their raw materials, such as limestone mines operated by cement manufacturers. These form part of the manufacturing industries."¹

Changing the definitions can make a significant difference to the shares of mining and manufacturing. It has been estimated, for example, that including processed nickel, copper and tin in 'manufacturing' would have increased its gross output by 3 percent in 1982 (UNIDO, 1985:22). In addition, some recorded agricultural products are actually processed, such as cotton lint and refined sugar (UNIDO, 1987:9).

Thus, there is limited utility in using these national income accounting ratios for comparison purposes and basing explanations of economic performance on them. Their arbitrariness may lead to spurious conclusions being drawn.

¹ See Central Statistical Office, *Census of Industrial Production 1988/89* (p.i)

Unfortunately, the way that data are aggregated in the Census of Industrial Production and the Quarterly Digest of Statistics are aggregated does not facilitate an unbundling of the various sub-sectors to reassess the figures on the basis of alternate definitions. It is clear, however, that a significant percentage of the manufacturing output is produced by sectors which are very close to domestic primary production. These include agricultural based products like slaughtered meat, milled grain, and some basic dairy products. Basic textile processing includes the production of cotton lint. Sawn wood is also included as a manufactured item. Even where such products are correctly allocated, the value added in vertically integrated operations may be applied to the wrong sector.²

Census of Industrial Production

In liaising with the CSO to obtain case study firm data, it became apparent that there were a number of problems with the compilation of the Census of Industrial Production, which is the source of information for manufacturing's contribution to GDP. These include: records found to be missing for certain companies for a number of years and being imputed at average growth rates; firms producing across different industrial sectors having all their output entered into the sector in which over 50 percent of their output falls; companies which manufacture less than half their sales being excluded from the census; and, new firms being missed for several years after they come into operation. In 1981, it was estimated that over 4 percent of total gross output was incorrectly classified, and in 'metals and metal products' (section 9 of the national breakdown) the 'correct' figure was 3.5 percent lower than that published (UNIDO, 1985:25-26).

Industry and Trade Data

Production of nickel, copper and other metals, apart from ferro-alloys and iron and steel are not included in the CSOs definition of manufacturing. The CSO figures are not entirely reliable, as the basis for their calculations changed twice during the period. The CSO in Zimbabwe were unable to assist in reconciling historical trade to production data, as the commodity categorisations for production data uses the ISIC codes, while the trade data uses

² See Fine and Rustomjee (1996) chapter 4, for similar arguments.

the SITC codes.

It is not entirely clear what accounted for the rapid increase in gross output and value added recorded by the census of production between 1987 and 1989. Zisco's own figures for sales as submitted to the CSO (confidentially) account for less than a quarter of the total figures quoted for iron and steel gross output over the period. It seems in part a price effect. Between 1987 and 1988, the volume of ingots and billets exports declined by 8 percent, while the value increased by 50 percent, but this increase still only accounts for around 10 percent of the total increase in the value of iron and steel gross output. Ferro-alloy exports account for much of the rest. The volume and value changes from 1987-88 were -9 percent and +38 percent respectively. Unfortunately the export figures for 1989 were not produced by the CSO.³ Apart from these problems, published figures can only provide a rough guide, as the payments for exports may not necessarily have been recorded at exactly the time the exports occurred.

The analysis in Chapter 4 is based on the assumption that the available data are a reasonably reliable guide. Yet the data problems should not be forgotten and the conclusions not interpreted as definitive.

³ Possibly this was due to the impossibility of reconciling them sensibly.

CASE STUDY FIRMS AND THEIR SECTOR: PERFORMANCE INDICATORS

This Appendix provides data on case study firm performance.

Labour productivity

Productivity can be measured in a number of ways. In this case, both gross output per worker and measures for value added per worker are examined. Given the increasing uncertainty about the data as one subtracts costs away from sales figures, the more reliable data available are for gross output per worker.

Ideally, these figures should be calculated on the basis of productivity per hour worked, including overtime. This information was only available for 1996, however. It could be argued that the figures should be calculated for production workers rather than total workers. Yet, sales, marketing, administration and corporate management are also instrumental to the fortunes of the firms, so the figures shown are for total workers.

The figures quoted below give changes from one point in time to another. Yet, the figures for the firms for specific years are in a sense arbitrary, as the levels of gross output per worker fluctuate from year to year. By varying by a year either way the pattern may be very different. For example, the *average* change for a firm between 1981 and 1990 may be quite different from that between 1980 and 1989. Given data across the firms are not always available for the same year, comparisons of rates of change should not be taken as unambiguous indicators of firm performance. Data are not available for sufficient consecutive years to base the analysis on moving averages.

Furthermore, increases in productivity are not unambiguous. They could be a result of: increased automation through new investment; increased worker effort, associated with increased capacity utilisation; a more streamlined organisation; or, they could be reflecting retrenchments. Some reasons for these differing patterns are examined in Chapter 6.

Table A6.1 - Changes in Gross Output per Worker 1980s and 1990s

Firm/ Z\$'000 per annum [1990 prices]	STATIC CO	SAND CO	RENE WCO	QUAL CO	DELA YCO	PLAS TICO	MON OPCO	Engineering Total	Fabricated Metal Products
Gross Output/ Worker 1980/81	..	73.8	34.0	152.4	66.4 ¹	52.2 ¹	161.4	48.3	37.9
Gross Output/ Worker 1989/90	15.8 ²	57.8	21.8	206.5	54.4 ³	33.0	300.1 ⁴	58.0 ⁴	45.1 ⁴
Gross Output/ Worker 1994/95	18.7	62.5	14.3	175.3	42.7	46.7	232.9	57.3 ⁵	46.1 ⁵
1980s change per annum [%]	..	-1.8	-4.8	3.4	-2.2	-5.6	6.4	2.1	2.0
1990's change per annum [%]	5.8	1.6	-8.1	-3.2	-5.8	7.2	-6.1	-5.0 ⁶	..

Notes: 1 - Figures are for 1981/82; 2 - 1991/92; 3 - 1990/91; 4 - 1990; 5 - 1993; 6 - Average from ES Census results

Source: survey data and CSO, *Census of Industrial Production* (various)

Comparing these firms' figures with those for the engineering sector as a whole, while gross output per worker fluctuated widely during the 1980s, by 1990 it had effectively increased by an average of 2.1 percent per annum over the decade, about the same growth rate as that for the fabricated metals sub-sector. From the ES Census, the 1990s were worse, with an average decline of 5 percent per annum. During the period as a whole, the average value of gross output per worker and the average changes for the case study firms were in the middle of wide variations seen among the sample firms.

In general, the changes to value added per worker are worse.¹ While the record of decline during the 1980s is similar to the gross output picture, only MONOPCO showed an increase in this indicator. At absolute levels, QUALCO and MONOPCO are again the leading performers, but in this case, MONOPCO starts to lose some of its advantage in the 1990s.

¹ For the purposes of the comparison with sectoral data, net output is used as a proxy for value added. It is also a more reliable guide, as the data available for payments for services varies across the sample. The broad patterns of change are similar, however.

It is interesting to note that only QUALCO and to a lesser extent SANDCO follow the sectoral trend of a decline during the 1980s and an increase in the 1990s. The firms with the highest productivity levels, QUALCO and MONOPCO, are also unsurprisingly, the firms with the lowest ratios here. With less workers producing more each, the firms require a lower share of their output to meet their wage bill. On the other hand, a firm like RENEWCO, which has seen falling productivity throughout, has correspondingly seen an increase in the share of gross output accounted for by non-material input costs. Some of the large swings in this ratio may be more due to data problems than reflective of real changes.

Profit data is treated with great scepticism and not used to any great extent in the research. Profitability, is difficult to estimate accurately from the firm information provided. Some firms, for example SANDCO, appear to be making losses. Yet, they are paying corporate tax. On the other hand, firms like STATICCO and DELAYCO appear to be paying little or no tax and, on first assessment, to be making substantial profits.

Table A6.4 - Changes in Gross Profit/Total Revenue 1980s and 1990s

Firm/ percentage	STATIC CO	SAND CO	RENEW CO	QUALC O	DELAY CO	PLASTICO	MONOP CO
1980/81	..	33.0	11.4	20.0	9.51	59.3 ¹	31.1
1989/90	27.1 ²	-4.2 ³	9.2	7.7	8.9 ³	32.7	26.6 ⁴
1994/95	10.7	-7.9	-6.5	23.4	10.9	13.1	12.2

Notes: 1 - Figures are for 1981/82; 2 - 1991/92; 3 - 1990/91; 4 - 1990;

Source: survey data

Table A6.4 suggests that, with the exception of SANDCO, those firms with faster growing productivity in the 1990s, namely STATICCO, QUALCO and PLASTICO are also those where profitability remains higher in 1994/95.³

Overall, it is clear that the days of easy profits made at the end of the UDI era are over. Some companies were still able to achieve gross profit margins of over 25 percent just prior to the introduction of the changes in economic policies in 1990/91. By 1994/95, with the exception of QUALCO, firms were struggling to get margins of little over half that value.

³ It looks as though the 1989/90 figure for firm QUALCO was something of an anomaly. By 1991/92 the profit ratio had already recovered to 17.8 per cent.

An area where there is considerable commonality of experience is in stockholding. Contrary to the efforts of management in many firms to reduce stock levels to lower working capital costs, in the high interest rate environment, this has not been seen in many firms during the early 1990s. Most of the managers interviewed were of the impression that their stocks had reduced.

Table A6.5 - Changes in Stocks/Gross Output 1980s and 1990s

Firm/ percentage	STATIC CO	SAND CO	RENEW CO	QUA LCO	DELA YCO	PLAS TICO	MON OPCO	Engineering Total	Fabricated Metal Products ^a
1980/81	..	29.0	11.9	15.1	20.1 ¹	2.5 ¹	17.5	33.1	20.8
1989/90	8.8 ²	18.1 ³	19.1	15.8	20.6 ³	13.2	10.5 ⁴	29.4 ⁴	18.1 ⁴
1994/95	9.9	24.0	21.1	24.8	8.4	2.2	36.5

Notes: a - including non-electrical machinery; 1 - Figures are for 1981/82; 2 - 1991/92; 3 - 1990/91; 4 - 1990;
Source: Survey data and CSO, *Census of Industrial Production* (various)

Capacity utilisation is another well-established indicator of performance. Estimates of capacity utilisation ranged across the firms from 50 percent to 100 percent at the time of the survey in 1996. There was some correspondence between capacity utilisation and profitability, with the two firms with the lowest capacity utilisation making losses. Management in most firms considered that capacity utilisation had either remained the same or fallen over the past four years. Only in the case of firm RENEWCO, with its new management team shaking up the organisation, and firm YOUNGCO, which is expanding rapidly, was there an intimation that it may have increased.

A CASE OF INSTITUTIONAL INERTIA: THE FOUNDRY TRAINING CENTRE

The case study illustrates a number of institutional characteristics which inhibited the process of redefining the relationships between government and the private sector, following the recent macro-policy changes in Zimbabwe. These included divisions within government, associated with a lack of clear and decisive leadership and well designated responsibilities. Industry was constrained financially and organisationally, in the face of collective action problems and the public good character of the investment. Government was not clear about its need to take seriously an industry representative body which seemed to lack legitimacy, and did not have the full commitment of some firms in the sector.

As part of the then Ministry of Industry and Technology's efforts to gear up the development of the capital goods sector in Zimbabwe in the mid-1980s, the permanent secretary acknowledged the need to support local skills development in several key industrial areas¹. These included the foundries industry, which had suffered from both a lack of local training facilities and from the emigration and natural wastage of many white skilled workers. Improvements were required to the quality and range of products, including spares and machinery components. An approach was made to UNIDO in 1987 to provide advice on establishing a training centre for the industry.

A 1987 mission from UNIDO visited many foundries in Zimbabwe and the only facility which was providing any training specifically for the industry, the Bulawayo Technical College. The investigation found BTC offered neither adequate training, nor the possibilities for using its facilities to support the introduction of modern foundry technologies. It concluded that "it is essential ... to establish as soon as possible a Foundry Training and Demonstration Centre (FTDC)" (UNIDO, 1987a:7). With the majority of Zimbabwean foundries in Bulawayo, it was recommended that the FTDC be established at BTC. A Bulawayo foundry firm, F. Issels, owned by the government through the IDC, was recommended as a venue for on-the-job training.

¹ The following account has been drawn from interviews and confidential documentation from a number of sources in Zimbabwe.

The foundries industry had a representative organisation, the Zimbabwe Institute of Foundrymen (ZIF). Up to 1994, the ZIF operated technically as two branches (in Harare and Bulawayo) of the South African Institute, although functionally it was already quite autonomous. In that year it became fully autonomous, in response to Zimbabwean members' need to have a more powerful voice at the national level. The organisation was a hybrid. It represented sectoral business interests; assisted in maintaining professional standards in the industry, in improving skills and transferring technology; and, acted as a mouthpiece for the industry.

In 1989, the ZIF's precursor became involved in consultations between the Ministry of Industry and the recently formed MHE on the UNIDO recommendations, which were languishing. NAMACO's mechanical engineering committee considered and reconsidered the proposal before recommending it in 1991. Government claimed it had been inadequately involved in the study.² In February 1991, the Ministry of Finance requested UNIDO to produce a follow-up study, with greater emphasis on a training needs analysis, and to work more closely with government.

As a result, UNIDO conducted a more comprehensive analysis, which became known as the Marshall Report (UNIDO, 1992). It found that the "major shortage of experienced and trained manpower at all levels in the industry [were a] major problem" (ibid.:19). Its recommendations were similar to those of the earlier mission. They included: improved training; the introduction of new technologies, processes and equipment; and the introduction of quality management systems.

During the study, the BTC submitted its recommendations for the upgrading of its foundry training facilities to the MHE. This called for a very large direct investment, of nearly Z\$16 million, as against the reported cost arising from the 1987 Report's recommendations of Z\$4 million, or Z\$10 million in 1991 prices. In the contemporary plans for the Scientific and Industrial Research and Development Centre (SIRDC), proposals were included to establish a foundry research and development facility. The Marshall report suggested that the Zimbabwean industry was too small to support two separate facilities, and proposed one

² Though it is not clear which part of government this was.

multi-purpose centre. The main departure from the earlier report was the recommendation that it "would be more effective if operated in the private sector, by foundry personnel who have considerable knowledge and experience in the sector." (ibid.:21).

The report stated the expectation, that with donors funding the capital costs, there would be sufficient possibilities for revenue generation, *including government grants*, to make the FTDC financially self-sufficient within a short period.

After the report had been submitted, the ZIF decided a feasibility study should be conducted to assess the costs and benefits of the proposed centre. The ZIF liaised with the Ministry of Industry and Commerce to obtain funding. The MIC transferred the project back to the MHE. On consultation, the ZIF indicated its dissatisfaction with the BTC option. Disregarding industry's concerns, the MHE submitted the BTC expansion proposal to UNIDO in January 1993. UNIDO rejected the request for support.

An increasingly acrimonious competition for support of the two options ensued. By 1996, this had remained unresolved. Infrequent meetings were held between the two sides. NAMACO were unable to resolve the problem, despite recommending the ZIF option to the MHE. In late 1995, in spite of the apparent commitment of the head of the MHE to support the ZIF's proposal, MHE resubmitted the BTC expansion proposal to UNIDO. This was rejected again in mid-1996. UNIDO reiterated the view of the Marshall Report, that a foundry training centre should be autonomous from government, driven by industry's needs and run on a profit-making basis.

The support of the two sides for their preferred options centred around differences in priorities. The ZIF was highly suspicious of government's ability to adequately fund, run and manage the training centre. It was not ruling out government playing a role in the centre, but argued for a feasibility study to assess various options. In the MHE's view, the private sector alone would not have been able to afford the capital to establish the centre. For government to have assisted in mobilising funding, it should also have responsibility for running the centre. MHE staff suggested industry should partner government in determining the direction of the centre.

Several lessons emerge from an examination of the issues. These centre on the organisational capabilities of the two sides, as well as their positions in the changing class structure underpinning Zimbabwean industry. The ZIF represented a sector with under fifty foundries in Zimbabwe (excluding micro and small scale operations). Many of these belonged to firms with other divisions. The ZIF lacked the commitment and unity necessary to establish a permanent secretariat. It was reported, from within the industry, that the Bulawayo foundries were less keen on opposing the MHE's proposals. Consequently, the ZIF was unable to support a lobbying campaign. It also lacked political contacts and the experience essential to ensure that its lobbying would be heard.

The MHE was staffed with a middle level of managers, who were the same people in place during the 1980s and were responsible for, or involved in, the implementation of the recommendations of the National Manpower Survey (see Chapter 4). As with Ministry of Industry and Commerce officials, they were imbued with the idea that government had to act in a controlling manner to transform society. The shift to ESAP introduced an implicit exchange of that approach for one that, at its best, proposed a genuine partnership between government agencies and others in society. Such a move required a major shift in approach. There was little evidence of such a change among middle-management at the MHE.

MHE staff actively resented being told what to do by outsiders. Industrialists' attitudes were perceived by ministry officials as dismissive of their experience. They, not the industrialists, were the training experts, and should be listened to. MHE's criticism was also aimed at the role of UNIDO. Even the Marshall Report excluded government's views. It was claimed the report "lacked an awareness of the sensitivity and clash of interests that its recommendations were likely to provoke".³

In conclusion, this example encapsulates some of the problems of organisational inflexibility noted elsewhere. It illustrates some of the difficulties of trying to introduce change in the face of many forces engaged in effectively promoting the preservation of existing patterns of interaction and decision-making.

³ Interview with MHE official, 2 July, 1996.

