

Engendering Economic Recovery: Modelling Alternatives to Austerity in Europe

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ABSTRACT

This article explores a gendered expansionary macroeconomic scenario for Europe as an alternative to the current austerity policies over the medium term. Using a non-equilibrium structuralist macroeconomic model we demonstrate that the dual aim of economic growth and increases in both male and female employment can be achieved via the adoption of gender-sensitive expansionary macroeconomic policies. We compare and contrast three scenarios for Europe: continued austerity, gender-neutral expansionary scenario and gendered expansionary scenario. Projections for our gendered expansionary scenario suggest that an additional 7.4 million jobs for women could be created in the Eurozone and the United Kingdom by reversing austerity policies, by gendering and increasing government expenditure and private investment. Further, higher growth rates under the gendered expansionary scenario lead to significant reductions of debt-to-GDP ratios and lower budget deficits. The main recommendation is for Europe to roll back austerity policies and to embark on a new gender-focused economic trajectory.

KEYWORDS

Europe, crisis, austerity measures, recovery, gendered macroeconomic policies, employment, gendering government expenditure, gendering investment.

1. Introduction

Job creation for both women and men should be a high priority for European policy makers given the unsustainable high levels of unemployment in the aftermath of the financial crisis and the persistent employment gap between men and women. Instead, economic policies to date have overwhelmingly focused on attempts to cut both government debts and deficits by adopting a series of austerity measure with negative consequences for job creation and growth.

Using the Cambridge Alphametrics Macroeconomic (CAM) model, a detailed structuralist non-equilibrium macroeconomic model, this paper complements existing empirical evidence, by developing a gendered perspective on investment-led economic recovery. This is of particular importance in light of increased evidence that current austerity policies in Europe are likely to disproportionately disadvantage women via their roles in the labor market (see e.g. Maria Karamessini and Jill Rubery 2013 and Francesca Bettio et al. 2013) and that recent European investment policies such as the Investment Plan for Europe are focusing overwhelmingly on investing on male-dominated physical infrastructure sector and neglect more female-oriented social investment in care, health, education services and so forth (Giovanni Cozzi and Jerome De Henau 2015).

In order to achieve this objective, our paper compares and contrasts three alternative scenarios for Europe: a continued *austerity* scenario, an *expansionary macroeconomic* scenario that is *gender-neutral*, and a *gendered expansionary macroeconomic* scenario.

Given current model specifications and limitations, we concentrate in this paper on the relationship between macroeconomic policies and economic growth via the labor market. The obvious limits of this analysis relate to the knock-on effects of the policy changes that are modelled on unpaid work. This shortcoming is discussed with reference to other models and suggestions for improvements in gender-aware macroeconomic forecasting going forward.

The focus of this paper is on the Eurozone and the United Kingdom. We divide the Eurozone into two blocs: *core Eurozone* (which comprises Austria, Germany, Belgium, France, Luxemburg and The Netherlands) and *Eurozone periphery* (which comprises Italy, Ireland, Spain, Portugal and Greece). Eurozone countries have been aggregated on the basis of similar macroeconomic conditions. Further, we keep the Eurozone Periphery as an individual bloc as it exhibits much lower rates of female employment to working-age population as compared to the core Eurozone. Our projections review the macroeconomic impact of these alternative scenarios for the period 2015 to 2025 (For this exercise historical series in CAM data bank run from 1980 to 2014).

Results generated by the CAM model project significantly higher female employment rates under the gendered expansionary scenario compared to the austerity and the gender-neutral scenarios. Furthermore, projected results for this scenario demonstrate that gendering government expenditure allows European countries to achieve higher employment rates for both women and men by using less government spending compared to a gender-neutral expansionary scenario. This is because the responsiveness of employment to changes in government spending is higher at lower levels of employment. In other words, we would need less government spending to stimulate female employment vis-à-vis male employment. Finally, higher growth rates under the gendered scenarios feed into projected reductions of debt-to-GDP ratios and lower budget deficits in all the European blocs.

Thus, we conclude by arguing that a gendered expansionary macroeconomic framework for Europe is indeed economically viable and it provides significantly better perspectives not only in terms of job creation for women and men but also in terms of debt reduction and fiscal balances compared to both continued austerity and a gender-neutral expansionary macroeconomic scenario. However, we are cognisant that a full gendered analysis requires an assessment of the impacts of policy changes beyond the labor market itself, to determine how women and men's unpaid work burdens may also be affected.

The paper is structured as follows. Section 2 explores current thinking and analyses of the global economic crisis, austerity economics and gendered outcomes. Section 3 introduces the Cambridge Alphametrics Macroeconomic (CAM) model and discusses the methodological approach of the paper. Section 4 outlines the three scenarios employed in the paper and the assumptions contained under each scenario. Section 5 presents the results of the modelling exercise while section 6 interprets and discusses the results, including suggestions for improvement. Finally, section 7 concludes.

2. Current assessments of the crisis, gender and austerity

2.1 The rationale behind austerity economics in Europe

Despite the significant deterioration in employment opportunities for both men and women as a result of the global crisis and recession, policy responses across Europe, following temporary, piece-meal and early attempts at fiscal stimulus, have focused on fiscal containment and debt reduction rather than promoting growth and job creation (Bettio et al 2013: 120). In the immediate aftermath of the global financial crisis of 2008, European governments were confronted with lower revenues (especially from the financial services sector) and higher spending. They responded to turmoil in financial markets with large

banking bailouts. The result of these developments was an expected rise in debt-to-GDP ratios across Europe. However, the subsequent response of governments to these developments and the economic rationale for it requires further exploration.

The rationale for fiscal retrenchment during recession relies at its most basic on the arguments of business confidence and policy credibility, and the assumption that fiscal consolidation in the short-run will lead to higher economic growth, driven by private investment in the medium to long-run. This has become known as expansionary fiscal austerity (Alberto Alesina and Silvia Ardagna 2009). The intellectual roots of austerity economics are argued to date back to 19th century classical liberal economists such as Adam Smith and David Ricardo (Mark Blyth 2013). However, the recent revival of austerity economics is more closely related to the economic thinking of the 1970s and 1980s and the application of such thinking to remedy sovereign debt crises in emerging and developing countries in the 1980s.

The argument that fiscal deficits crowd out private investment and must therefore be curtailed, even during recessions, was particularly forcefully pushed by the International Monetary Fund at the time (Jacques Polak 1997) and remains a persistent argument among policy-makers today (Johnathan D. Ostry et al. 2015). Carmen Reinhart and Kenneth Rogoff (2010) have provided empirical backing to the original theoretical arguments, suggesting that a debt-to-GDP ratio above 90% would prove inimical to economic growth. This argument appeared to receive further support from the experiences of Ireland and Denmark in the late 1980s. In an analysis of the policy responses to the economic crises of the 1980s in these two countries Francesco Giavazzi and Marco Pagano (1990) asserted that reductions in government spending had positive impacts on investors' confidence, and that this reduction, coupled with moderate tax cuts, was expansionary, helping to spearhead economic recovery. However, the economic environment of the 1980s was very different to the present economic environment. Fiscal consolidation in Ireland and Denmark occurred in a time of favorable economic circumstances such as new European fiscal revenues, a currency devaluation in Ireland prior to linking to the European Exchange Rate Mechanism, and the opening up of the single European market (Suzanne Konzelmann 2012). Thus, it is questionable that the Irish and Danish case can be used today to make the case for 'expansionary austerity'.

Further, it is unlikely that higher levels of public spending would crowd out private investment. With significant under-utilised resources in the European economy, there is no constraint on the availability of physical or human capital that would squeeze private investment, and interest rates are likely to remain at historically low levels. On the contrary,

as Joseph Stiglitz (2015) has argued, public investment, particularly in infrastructure, is much more likely to crowd in private investment. From a gender perspective the need for public investment to crowd in private investment is further strengthened. As argued by the ILO (2015) there is an urgent need to integrate social protection, employment and taxation policies in order to foster inclusive growth in the short-term and to build human capital and human capacity in the long term.

Empirical analyses of the links between government debt and growth continue to be marred by concerns over the data and a nagging question over causality i.e. is it low growth which causes rising debt-to-GDP ratios or does causality indeed run the other way around? (Thomas Herndon et al 2013). More importantly, the (unproven) threat from financial investors, that excessive fiscal profligacy would be inflationary and therefore lead to higher yields in the long-run, have scared European policy-makers into deficit reduction on an unprecedented scale. The above arguments have been combined with analogies of government budgets with household purses and beliefs (not grounded in economic theory) that governments should live within their means (Simon Wren-Lewis 2015).

The pro-cyclical austerity arguments described above have struggled to find traction within the academic economics community and empirical evidence of its success remains elusive (Malcolm Sawyer, 2012). Instead, it would appear that it has been political motivations rather than economic arguments that have driven the agenda for austerity economics across Europe (Blyth 2013, Wren-Lewis 2015).

2.2 A brief analysis of the gendered labor market outcomes of austerity in Europe

The focus on this paper is on assessing the impact of austerity policies on men and women via the labor market, in particular, and on demonstrating what an alternative framework for Europe might look like. This section therefore briefly considers available Eurostat data on employment to assess possible gendered outcomes since the onset of austerity in 2010.

Initially, the global financial crisis led to a decline in domestic and global demand in male-dominated manufacturing, construction, and financial sectors. However, as crisis turned to recession across Europe, secondary impacts via private sector demand have been less gender-specific, affecting a range of industries and leading to job cuts, wage freezes and increased job insecurity for both men and women (Stephanie Seguino 2010; Karamessini and Rubery 2013). In relation to the 2008 crisis, recession and policy response in the UK, Jill Rubery and Anthony Rafferty (2013) conclude on two fronts. Gendered labor market segregation can go a long way to explaining why men and women have been affected

differently in this recession. A distinction that can be drawn from previous recessions is the fact that women are resisting taking on the role of a flexible and contingent labor force during this recession. Rather than leaving the labor market entirely they are self-reporting themselves as unemployed or are moving to part-time employment only on an involuntary basis. These results appear to be reflected in the data in table 1 discussed below.

Cuts in government expenditure have led to a further reduction in female-dominated public sector jobs and pay. Even early indications from a study conducted in 2010-11 in four countries in Europe, indicated that public sector job cuts have been a widespread feature of austerity policies, with women disproportionately affected (European Federation of Public Service Unions 2011). Recruitment freezes or job cuts have also resulted in increased working intensity (longer hours, fewer holidays, and less family-friendly shift patterns) for those remaining in employment. Women have been disproportionately affected by such changes (see Elvira Gago and Marcelo Kirzner 2013 and Elvira Gago (2016) for examples of this in the Spanish context and Giovanna Vertova (2016) in relation to Italy).

Table 1: Latest Employment Rates and Changes since 2010 across Europe

| | 2014 Employment Rates | | | | Change between 2010-2014 | | | |
|------------------------------------|-----------------------|--------------|-------------|--------------|--------------------------|--------------|-------------|--------------|
| | Male 15-64 | Female 15-64 | Male 15-24 | Female 15-24 | Male 15-64 | Female 15-64 | Male 15-24 | Female 15-24 |
| Belgium | 65.8 | 58.0 | 24.5 | 21.7 | -1.5 | 1.4 | -2.8 | -1.3 |
| Germany | 78.1 | 69.5 | 47.7 | 44.6 | 2.2 | 3.3 | -0.2 | 0.2 |
| Ireland | 66.5 | 56.7 | 28.5 | 28.1 | 2.5 | 0.9 | -1.1 | -6.5 |
| Greece | 57.9 | 41.1 | 15.8 | 10.5 | -13.3 | -6.9 | -8.4 | -6.1 |
| Spain | 60.2 | 51.2 | 17.4 | 15.9 | -4.8 | -1.6 | -8.2 | -8.9 |
| France | 67.7 | 61.0 | 30.5 | 26.1 | -0.4 | 1.2 | -2.5 | -1.1 |
| Italy | 64.6 | 46.8 | 18.2 | 12.9 | -3.1 | 0.7 | -5.8 | -3.6 |
| Luxembourg | 72.5 | 60.5 | 21.9 | 20.1 | -0.5 | 3.3 | -0.2 | -1.6 |
| Netherlands | 78.0 | 68.1 | 58.7 | 58.8 | -2.3 | -1.3 | -3.9 | -5.8 |
| Austria | 75.4 | 66.9 | 54.3 | 49.5 | -0.3 | 1.3 | -2.3 | 0.6 |
| Portugal | 65.4 | 59.7 | 22.9 | 21.7 | -4.5 | -1.3 | -6.9 | -5.1 |
| United Kingdom | 76.6 | 67.1 | 48.3 | 47.4 | 2.2 | 2.6 | 0.8 | 0.7 |
| EZ Periphery Simple Average | 62.9 | 51.1 | 20.6 | 17.8 | -4.6 | -1.6 | -6.1 | -6.0 |
| EZ Core Simple Average | 72.9 | 64.0 | 39.6 | 36.8 | -0.5 | 1.6 | -2.0 | -1.5 |
| UK | 76.6 | 67.1 | 48.3 | 47.4 | -0.9 | 1.3 | -5.0 | -4.3 |

Source: EUROSTAT, Employment (main characteristics and rates) - quarterly data [lfsi_emp_q]

Table 1 summarises the latest employment data for our countries of interest. Data for 2014 indicate that gaps between male and female employment rates remain a feature of all the countries analysed here. The Netherlands is the only country in which data for youth

employment indicates that parity between men and women aged 15-24 has been reached. Even a cursory glance at the statistics in table 1 tells a sobering story – European employment rates have suffered at the hand of austerity policies. This is true for both men and women and the outcomes are particularly acute for young men and women in Europe. The core Eurozone countries have fared somewhat better than the periphery countries in this respect, at least for employment rates as a whole. In some countries it is evident gender equality in employment has improved as a result of a levelling down rather than up (Rubery and Rafferty 2013). In other words it is due to men’s employment situation deteriorating that differences between men and women’s employment have shrunk, rather than improvements for women. This is clearly neither a progressive nor sustainable way of achieving gender equity in labor markets. Worryingly, it is clear that the period 2010-2015 has done little to rectify imbalances between male and female employment, despite EU and national policy rhetoric claiming to be focused on achieving gender equity (European Commission 2013).

2.3 Developing alternative policies further from a gender-perspective

A significant discussion on alternative policy proposals for economic recovery has recently emerged from a number of different arenas. These proposals are based on the recognition that austerity policies are detrimental for Europe and that jobs and growth are created only with the adoption of an investment-led expansionary macroeconomic framework (see Stephany Griffith-Jones and Giovanni Cozzi 2016; Stiglitz 2015; Nitika Bagaria, Dawn Holland and John Van Reenen 2012; Michael Dauderstaedt and Ernst Hillebrandt 2013; Terry McKinley et al. 2013a; Stephany Griffith-Jones et al. 2012; Malcolm Sawyer 2012; and Terry McKinley and Giovanni Cozzi 2011). However, currently missing from the above studies, have been attempts to estimate the potential gender impacts of different policy scenarios.

Concurrently to the above research agenda, a number of feminist scholars have begun to demonstrate what a progressive, feminist alternative to continued austerity might constitute in concrete policy terms (Claire Annesley 2014; Diane Perrons and Ania Plomien 2013). In the UK, the Women’s Budget Group (2012) has devised a so-called F-Plan. This alternative, feminist plan for recovery outlines policies that stimulate job creation by putting money in the hands of poorer and middle-income people and invest in social as well as physical infrastructure. The F-Plan’s concrete proposals are an important addition to current debates around the impact of the financial crisis and austerity policies on men and women in Europe. Such policy proposals also fill the gender-gap identified among those working on macroeconomic policies for broad-based recovery in Europe.

Beyond the literature on economic policies, there is now a growing literature on the relationship between gender equality and economic growth, including numerous cross-country studies that find that a number of countries are not achieving their full growth potential because of large gender gaps in employment (Stephan Klasen and Francesca Lamanna 2009, Zafiris Tzannatos 1999). However, this debate is far from conclusive, with questions over method, data and causality, among other things, remaining open. For a full discussion and evaluation of this debate the comprehensive review by Naila Kabeer and Luisa Natali (2013) provides an excellent starting point.

Finally, it is important to note the progress made regarding the engendering of macroeconomic models among feminist scholars. Recent works by Elissa Braunstein, Irene Van Staveren and Daniela Tavani (2011); Elissa Braunstein (2015) and Marzia Fontana (2014) demonstrate the limits of traditional macroeconomic models of the economy and the limits to investigating gender as merely an add-on to traditional categories of analysis. Braunstein, Van Staveren and Tavani (2011) offer an important addition to the literature in this field by formally modelling the unpaid care sector as part of the economic system.

Kortkut Ertürk and Nilüfer Çagatay (1995) discuss the implications of changes in the feminization (understood as an increase in female employment relative to male employment) of the workforce and the changes in the intensity of unpaid household labor on macroeconomic variables and relationships. We focus on their results in relation to high income countries where they demonstrate that feminization during a period of economic contraction can lead to higher rates of investment and therefore growth. However, this needs to be pitched against the potential negative impact of a contraction of output on unpaid household labor, which is assumed to be counter-cyclical. In other words, during a recession the amount of unpaid household labor increases, reducing consumption and aggregate demand and thereby dampening economic growth. In the case of the current recession and the austerity period that has followed, women appear to have indeed been affected pro-cyclically within the formal labor market. This is starting to be reflected in official statistics, especially for those under 24 years (see table 1) but is also supported by evidence on increases in involuntary part-time working (Rubery and Rafferty 2013).

This paper, by making use of a structuralist global macroeconomic model, hopes to add to this research by providing a medium-term perspective. In the context of Ertürk and Çagatay (1995) we are able to shed further light on how the feminization process may or may not contribute to economic recovery. Unfortunately, in its current form, the model employed here is unable to address the second aspect of Ertürk and Çagatay (1995) conclusions

regarding unpaid household labor. However, we will discuss how the model used here can be adapted in future to accommodate a fuller gender analysis in section 6 below.

One further important contribution made by feminist researchers that has implications for macroeconomic modelling relates to a redefining of the term investment (Sue Himmelweit 2016; Jim Campbell, Diane Elson and Ailsa McKay 2013; Mildred Warner 2009). Traditionally investment is understood as a flow of capital, spending on goods and services today for which benefits are not accrued immediately but are instead reaped over time, into the future. While in the past investment has been seen as encompassing physical goods such as transport infrastructure and machinery, increasingly investment and capital have been reinterpreted. Today we talk about human capital as well as social capital as crucial aspects of an economy and its development. Research has begun to highlight the importance of viewing investment not just in terms of physical goods and services but also in terms of social investments.

We employ Campbell, Elson and McKay (2013)'s broader feminist definition of investment (both public and private) to include social investment directed towards improving human capabilities and quality of life. This article intends to borrow from the different strands of research discussed above, and build on this research by investigating the engendering of the general macroeconomic alternatives to continued austerity, through the implementation of the measures and policies emerging from feminist scholarship. As such, the article is able to demonstrate the economic feasibility of a gender-equitable macroeconomic scenario that puts sustainable and equitable growth and job creation at its heart.

3. The Cambridge-Alphametrics Macroeconomic model (CAM)

In section 2 we presented some of the gendered impacts of current austerity policies. But what are the broader, medium-term consequences of continued austerity versus alternative policy measures? We hope to answer this question by making use of the Cambridge Alphametrics Model Macroeconomic (CAM), a global macroeconomic model that allows us to compare and contrast opposing policy scenarios. While this model does not allow us to consider the long-term gender outcomes in specific sectors and unpaid household labor, it does allow us to investigate the impacts of different policies on men and women in the labor market and on broader economic variables in each of our countries of interest.

The Cambridge-Alphametrics Model (CAM) of the world economy is a non-equilibrium global macroeconomic model that is primarily used to make medium term

projections of historical trends of the global economy, blocs of countries, and major individual countries, while taking into account changes in economic conditions or policies. CAM projections draw on continuous historical data from 1970 to the most current year available for model variables (2014 for this exercise).¹

In CAM the world economy is seen as an integrated system where the behaviour of different countries and blocs differs and changes over time as a result of their specific economic conditions. The model has a common set of identities and behavioural equations that determine macroeconomic adjustments. (Francis Cripps 2014).²

The CAM model stems from the work of Francis Cripps, Wynne Godley and other researchers at the Cambridge Economic Policy Group in the 1970s (see e.g. Francis Cripps and Wynne Godley 1976 and Wynne Godley and Francis Cripps 1983) and has its roots in Structuralist Growth Models (SGM). In particular, aggregate demand and technical progress are the principal drivers of economic growth. Thus, the economic growth rate is understood as reflecting growth of aggregate investment and government spending in the world as a whole. These variables in turn reflect confidence and expectations on the one hand (private investment) and policy on the other (government spending) (Cripps 2014).

Another characteristic of structuralist models, including the CAM model, is that they do not assume that macroeconomic equilibrium involves full employment (Lance Taylor 1990). In CAM employment is bound at the upper level at 85% relative to the working-age population plus 20% of those of retirement age (65 and over) and at the lower level at 40%. Employment is also analysed separately for female and male members of the labor force. It is a function of potential labor supply represented by the population aged 15 to 64 and fluctuations in GDP growth for both women and men (Cripps 2014).

Two further modelling issues are important for our gendered analysis. The first relates to the additional factors driving male and female employment, respectively. On the one hand male employment is positively affected by levels of urbanization within the CAM model. As a country industrializes its urban population grows and male employment, in particular, increases. This affect is assumed to slow down as an economy develops and is of lesser importance in for this paper as we are concentrating on industrialized countries of similar levels of development. On the other hand female employment is negatively affected by the size of the child population. In countries with high levels of child dependency, the rate of

¹ The databank holds series in US dollar values and other units disseminated by UN organizations. The CAM comprises a databank of historical time series and a series of computer programmes that organise the original data, estimate model parameters and generate scenarios.

² For a full explanation of behavioural specifications for core macroeconomic variables see Francis Cripps (2014).

female employment is also deemed to be lower, as women have greater caring responsibilities that take them out of the paid labor market. Once again, the relative size of the child population diminishes as countries develop and this link is less important in this particular version of the model as we are comparing countries in Europe with similar child dependency ratios.

The second important assumption made about male and female employment in the CAM model relates to the responsiveness of employment to economic output changes at different levels of employment. Following a variant of Okun's law, the CAM model assumes that employment is six times more responsive to changes in output at lower levels of employment than at higher levels of employment. In other words at very high levels of employment i.e. close to the upper bound, a larger increase in output is required to raise employment levels. Given that government spending and private investment are key factors determining aggregate demand and therefore economic output, this assumption implies that higher levels of government spending and private investment are needed to generate employment when levels of employment are already high. Given that female employment is lower than male employment, particularly in the Eurozone periphery, we would expect that lower levels of government spending and private investment are needed to increase female employment vis-à-vis male employment when this is case.

4. Scenario assumptions and specifications

This paper compares and contrasts three alternative policy scenarios for Europe for the period to 2030. The first scenario assumes the continuation of past trends and current austerity policies without any significant innovation in European politics (*Austerity scenario*). This scenario is then contrasted with a *Gender-neutral Expansionary Macroeconomic scenario* and a *Gendered Expansionary Macroeconomic*. We now review the core assumptions underpinning the three scenarios under investigation.

4.1 Austerity scenario

In the austerity scenario we assume that governments in the Eurozone will continue to cut government expenditures in an attempt to reduce budget deficits below -3% of GDP and bring their debt-to-GDP ratio down to 60%, in line with the Growth and Stability Pact. In the United Kingdom we also assume that government expenditure will be reduced in an attempt to bring the budget deficit to 0% by 2019, as indicated in the Spending Review and Autumn Statement 2015 (HM Treasury 2015). In order to achieve this, we impose targets for the ratio

of government expenditure to GDP. For the Core Eurozone we assume that government spending declines from 23.5% of GDP in 2014 to 21% in 2025, for the Eurozone Periphery it reduces from 21.2% of GDP in 2014 to 18% in 2025 and for the United Kingdom it declines from 21.9% of GDP in 2014 to 18% of GDP in 2025.³ In addition, in order to reduce government deficits we assume that government net revenue (taxes less subsidies, transfers and debt interest) either increases marginally or remains at 2014 levels throughout the period under investigation. For the United Kingdom, in line with the Spending Review and Autumn Statement 2015, we assume that government net revenue as a percentage of GDP increases from 17.3% in 2014 to 18% in 2025. For the core Eurozone government net revenue remains at 21% of GDP throughout the period and for the Eurozone periphery it remains at 16% of GDP over the period 2014 to 2025.

In the austerity scenario we also model the impact of the €15 billion three-year Investment Plan for Europe. This plan represents an annual investment boost of 0.75% of EU 2014 GDP over its life span.

4.2 Gender-neutral expansionary macroeconomic scenario

Our **gender-neutral** expansionary macroeconomic scenario assumes that government expenditure and private investment are the key strategy to increasing employment and economic growth. Thus, in this scenario we model increases in the ratio of government expenditure to GDP across Europe. We calibrate the increase of government expenditure in order to achieve a desirable, but also feasible, ratio of the employed to working-age population. As such, we directly marshal government expenditure towards employment generation for both women and men.

For the Core Eurozone and the United Kingdom the employment targets for 2025 is 74% and for the Eurozone periphery the 2025 target is 60%. These employment targets are less optimistic than those set up in the Europe 2020 strategy, developed by the European Commission (2013) and by the UK Government. Europe 2020 foresees that employment as a percentage of the working age population for countries we have included in the core Eurozone would be in the region of 73% to 77% by 2020 and for countries included in the Eurozone periphery it would range from 67% to 73%. The United Kingdom does not have specific employment targets as part of the Europe 2020 strategy. However, the Spending Review and Autumn Statement 2015 estimates that by 2020 there will be 32.2 million people

³ Government expenditure excludes transfer payments such as social security and pensions. Thus the ratios shown are considerably smaller than the gross figure usually quoted.

employed (HM Treasury 2015). This is equivalent to approximately 78% of the working age population. However, given the persistent recessionary conditions in Europe, the low expectations of profitability under continued austerity policies, and the low levels of private investment, we believe that the target set up by the European Commission and the UK government are far too optimistic and thus we target lower and more feasible levels of employment as a percentage of the working age population.

In order to contain future government deficits and to further stimulate aggregate demand we also assume a boost in government net revenue in conjunction with the projected increase in government expenditure. So, for the Eurozone Periphery government net revenue as a percentage of GDP increases from 16% of GDP in 2014 to 21% of GDP in 2025, for the Core Eurozone it rises from 21% of GDP to 22% and for the United Kingdom it increases from 17.3% in 2014 to 21.5% in 2025. These represent substantial increases in government net revenue, in particular for the Eurozone Periphery and the United Kingdom, but all remain below historical peaks (22% for the Eurozone Periphery in 2007, 22.3% for the core Eurozone in 2000 and 23% for the United Kingdom in 2000). Compared with the austerity scenario, the implicit assumption behind raising government net income in this scenario, is the introduction of progressive tax measures (see Women's Budget Group 2012) as compared to the regressive measures currently proposed or already introduced across Europe (see Ortiz and Cummins 2013a).

Our final assumption for this scenario is a major boost in private investment. With regards to this increase we argue that Juncker's Investment Plan for Europe should be supported by an additional €500 billion over the projected period to 2025. This represents an additional annual investment boost of 0.4% of EU 2014 GDP over the projected period.

With reference to the financing of such a major investment plan several proposals have been put forward. In this paper, we base our assumption on the work by Griffith-Jones and Cozzi (2016) who argue for various measures to boost private investment, including a boost to the European Investment Bank and the European Fund for Investment.

4.3 Gendered expansionary macroeconomic scenario

In our **gendered** expansionary macroeconomic scenario we also assume that government expenditure and private investment are the key drivers for stimulating future growth and for generating jobs for both men and women. As such, in this scenario we specify the same assumptions as those of the gender-neutral expansionary macroeconomic scenario. However the novelty of this scenario is that we also programme for a disproportionate increase in

female employment vis-à-vis male employment. In other words, we assume that government expenditure is gendered and re-directed towards the creation of more jobs for women than men so that the ratio of female employment to male employment increases over time. Table 2 shows the variation of female employment as a percentage of male employment for the three scenarios under investigation.

Table 2. Female employment as % of male employment

| | Historical | | | Projections | | Scenario |
|--------------------|------------|------|------|-------------|------|----------------|
| | 2000 | 2008 | 2014 | 2015 | 2025 | |
| Eurozone periphery | 60.7 | 70.6 | 72.2 | 71.5 | 68.5 | Austerity |
| | | | | 71.6 | 72.1 | Gender-neutral |
| | | | | 72.1 | 75.7 | Gendered |
| Core Eurozone | 77.8 | 84.3 | 86.7 | 86.9 | 87.8 | Austerity |
| | | | | 86.8 | 89.0 | Gender-neutral |
| | | | | 86.9 | 90.0 | Gendered |
| United Kingdom | 83.8 | 84.9 | 85.6 | 85.7 | 85.8 | Austerity |
| | | | | 85.6 | 86.7 | Gender-neutral |
| | | | | 85.8 | 87.7 | Gendered |

We believe that a combination of higher (gendered) government spending and revenue, together with significant increases in private investment should help expand the productive capacity of an economy in addition to stimulating aggregate demand. Further, by disproportionately redirecting government expenditure towards supporting female employment we assume that women will benefit the most from the expansion of productive capacity. That is, we assume that part of this government expenditure will be redirected towards physical as well as social investment which has the potential to enable women to (re)enter the labor market or to allow women to move from involuntary part-time to full-time jobs.

In its current form the CAM model is unable to provide a fully gendered analysis that also captures the unpaid sector of the economy. The increased paid work for women generated in this gendered scenario might be assumed to increase women's overall work burden unless unpaid work is redistributed or is provided via the state. The overall data on employment is also not broken down by sector or by employment type and quality. Despite not being able to fully capture and model these possible outcomes fully we can make some preliminary deductions based on other research (Çağatay and Erturk 1995; Braunstein 2015).

Following Çağatay and Erturk (1995) we can consider the relationship between an increase in female employment and unpaid work in this expansionary scenario. Employing

their assumption that household labor is counter-cyclical, this scenario can be seen as one in which the economies of Europe are growing, female employment is increasing and household labor decreasing. Given that this scenario is based on the expansion of both social and physical investment, we would expect a fall in the intensity of household female labor as this is transferred to public and private provision, helping to stimulate aggregate demand. In terms of Braunstein's (2015) taxonomy of growth and social reproduction regimes, we can situate our gendered expansionary macroeconomic scenario as one that fits Braunstein's 'mutual' regime, in which production and reproduction tend to reinforce one another.

5. Results

In this section we present the projections produced by the CAM under the assumptions described for each of the three scenarios.

5.1 Economic growth

We are now interested in assessing how these three alternative scenarios perform in terms of economic growth. Table 3 shows historical average GDP growth for the period 2000 to 2014 and projections period 2015 – 2020 under the three scenarios.

Table 3. Average GDP growth (%)

| | Historical | | Projections | Scenario |
|--------------------|------------|-----------|-------------|----------------|
| | 2000-2007 | 2008-2014 | 2015-2025 | |
| Eurozone Periphery | 2.7 | -1.2 | 0.6 | Austerity |
| | | | 3.2 | Gender-neutral |
| | | | 2.4 | Gendered |
| Core Eurozone | 2.1 | 0.5 | 1.3 | Austerity |
| | | | 2.9 | Gender-neutral |
| | | | 2.7 | Gendered |
| United Kingdom | 3.1 | 0.5 | 0.6 | Austerity |
| | | | 2.5 | Gender-neutral |
| | | | 2.4 | Gendered |

Under the austerity scenario GDP growth is projected to stagnate both in the Eurozone periphery and in the UK whilst it only marginally increases in the core Eurozone compared to the period 2008 to 2014. Therefore, we argue that the combination of continued austerity and the additional investment resulting from the €15 billion Investment Plan for Europe is not sufficient to reignite economic growth in the Eurozone and in the UK. A comparison of the gender-neutral scenario with the gendered scenario reveals that similar rates of economic

growth are achieved under these two scenarios both in the core Eurozone and in the United Kingdom. On the other hand, for the Eurozone periphery, under the gender-neutral scenario, average GDP growth is higher at 3.2% compared to 2.4% for the gendered scenario. If these two expansionary scenarios were assessed solely on the basis of economic growth, one would discount the gendered scenario in favour of the gender-neutral scenario as the latter leads to higher output growth. However, once other macroeconomic indicators are taken into consideration, the gender-neutral expansionary scenario can be discounted in favour of the gendered scenario. These reasons for this are discussed below.

5.2 Government balances

We are now interested in assessing the performance of these three scenarios with regards to government balances. Table 4 shows the historical trends and projections of government spending as percentage for the three scenarios under investigation.

Table 4. Government spending as % of GDP

| | Historical | | | Projections | | Scenario |
|--------------------|------------|------|------|-------------|------|----------------|
| | 2000 | 2008 | 2014 | 2015 | 2025 | |
| Eurozone Periphery | 20.1 | 22.4 | 21.2 | 20.0 | 18.0 | Austerity |
| | | | | 21.5 | 27.0 | Gender-neutral |
| | | | | 21.5 | 23.8 | Gendered |
| Core Eurozone | 22.1 | 22.4 | 23.8 | 22.9 | 21.0 | Austerity |
| | | | | 23.2 | 24.2 | Gender-neutral |
| | | | | 23.0 | 24.0 | Gendered |
| United Kingdom | 18.9 | 22 | 23.4 | 21.0 | 18.0 | Austerity |
| | | | | 20.6 | 24.3 | Gender-neutral |
| | | | | 20.5 | 24.0 | Gendered |

Under the austerity scenarios reductions in government spending are exogenously determined in order to improve government deficits and to bring them below the 3% of GDP threshold imposed by the European Growth and Stability Pact for Eurozone countries and towards a surplus in the United Kingdom, as recommended by the 2015 Spending Review and Autumn Statement. On the other hand, for the gender-neutral and the gendered scenarios, government spending is endogenously determined on the basis of set employment targets. In addition, in the gendered scenario government spending is gendered and marshalled more towards employment creation for women vis-à-vis men.

The results for government spending for these two expansionary scenarios reveal that it is much more cost effective, in particular for the Eurozone periphery, to adopt a gendered

expansionary macroeconomic scenario than a gender-neutral scenario. In other words, given a set of employment targets to be achieved, governments would need to devote fewer public resources to reach set employment targets when they invest more in those areas that could increase employment for women and engender government expenditure. For instance, in the Eurozone periphery, in order to achieve a 60% ratio of the employed over the working-age population by 2025, government spending would need to increase to 27% of GDP under the gender-neutral scenario but it would only increase to 23.8% of GDP under the gendered scenario. The increase in government spending under the gender-neutral scenario seems also to be unrealistic as it is well above the historical peak of 24% of GDP reached in 2009.

Table 5 shows the impact of our assumptions for government spending and net revenue and private investment, on government sector net lending as a percentage of GDP under the three scenarios. The austerity scenario achieves higher reductions in budget deficits compared to both the gender-neutral and the gendered scenarios. However, these improvements are achieved at the high cost of a period of protracted stagnation of economic output that would last till the end of our projected period (2025).

Table 5. Government sector net lending as % of GDP

| | Historical | | | Projections | | Scenario |
|--------------------|------------|------|------|-------------|------|----------------|
| | 2000 | 2008 | 2014 | 2015 | 2025 | |
| Eurozone Periphery | -0.1 | -4.1 | -5.1 | -3.9 | -2.0 | Austerity |
| | | | | -3.4 | -6.0 | Gender-neutral |
| | | | | -3.4 | -2.8 | Gendered |
| Core Eurozone | 0.3 | -1 | -2.0 | -1.4 | 0.0 | Austerity |
| | | | | -1.3 | -2.2 | Gender-neutral |
| | | | | -1.3 | -2.0 | Gendered |
| United Kingdom | 3.5 | -4.9 | -4.6 | -3.4 | -0.4 | Austerity |
| | | | | -2.3 | -2.7 | Gender-neutral |
| | | | | -2.3 | -2.4 | Gendered |

With the exception of the Eurozone periphery, the gender-neutral and the gendered scenarios achieve similar levels of government sector net lending, with the latter scenario showing slightly lower levels of budget deficits due to lower levels of government spending. However, the levels of government sector net lending for the Eurozone periphery under these two expansionary scenarios are strikingly different: -6% of GDP for the gender-neutral scenario and -2.8% of GDP for the gendered scenario by 2025. In this region female employment as a percentage of male employment is lower compared to the core Eurozone and the United Kingdom (see Table 2). As a result we have more space to increase female

employment vis-à-vis male employment and, as described in section 3 of this paper, this requires less government spending. In other words, gendering government expenditure makes the achievement of higher employment targets more economically viable than in the gender-neutral scenario.

The gendered scenario also achieves better results in terms of reductions in government debt as percentage of GDP. When compared to the austerity scenario the two expansionary scenarios lead to a larger reduction in the ratio of government debt to GDP as they achieve higher levels of economic growth over the period under investigation. Furthermore, the gendered scenario displays a greater reduction in government debt to GDP compared to the gender-neutral scenario because a lower level of government spending is needed to achieve the employment targets. This is particularly evident in the Eurozone periphery where government debt as a percentage of GDP reduces from 119% in 2014 to 101.7% in 2025 for the gender-neutral scenario and to 97.4% for the gendered scenario (Table 6).

Table 6. Government debt as % of GDP

| | Historical | | | Projections | | Scenario |
|--------------------|------------|------|------|-------------|-------|----------------|
| | 2000 | 2008 | 2014 | 2015 | 2025 | |
| Eurozone Periphery | 87.1 | 78.3 | 119 | 125.0 | 114.0 | Austerity |
| | | | | 122.0 | 101.7 | Gender neutral |
| | | | | 122.0 | 97.4 | Gendered |
| Core Eurozone | 61.2 | 64.7 | 78.1 | 78.9 | 55.4 | Austerity |
| | | | | 77.2 | 50.8 | Gender neutral |
| | | | | 77.3 | 50.0 | Gendered |
| United Kingdom | 40.3 | 51.1 | 84.1 | 84.7 | 84.8 | Austerity |
| | | | | 83.5 | 66.5 | Gender neutral |
| | | | | 83.6 | 65.8 | Gendered |

5.3 Employment

We can now assess the impact of the three scenarios on employment (see table 7). Under both the gender neutral and the gendered expansionary macroeconomic scenarios we set the same targets of the ratio of total employed to working age population (60% for the Eurozone Periphery and 78% for both the Core Eurozone and the United Kingdom). In both scenarios these targets are achieved and they translate into a substantial increase in the total number of people employed.

On the other hand, under the austerity scenario, the CAM projects that the combination of austerity policies and a mild Investment Plan for Europe would lead to very poor gains in terms of employment creation and in some cases to losses (see table 7)

Of particular importance for our analysis is the impact of these three scenarios on female employment. Under the austerity scenario table 7 shows a marginal improvements on both female and male employment in the core Eurozone. On the other hand, in the Eurozone periphery female employment stagnates and still remains below 2008 levels whilst male employment increases from 29.9 million in 2014 to 31.4 million in 2025. Thus, the marginal employment gains in the Eurozone Periphery only results from an increase in male employment. In the United Kingdom, under the austerity scenario, female employment decreases from 14 million in 2014 to 13.8 million in 2025 whilst male employment stagnates at around 16.5 million. These results corroborate the findings discussed in section 2 of the paper, regarding the gendered impact of austerity policies.

Table 7. Female and male employment in millions

| | | Historical | | | Projections | | |
|-----------------------|--------|------------|------|------|-------------|------|----------------|
| | | 2000 | 2008 | 2014 | 2015 | 2025 | |
| Eurozone Periphery | Female | 18.3 | 23.4 | 21.6 | 21.6 | 21.5 | Austerity |
| | | | | | 21.7 | 23.8 | Gender Neutral |
| | | | | | 21.8 | 24.6 | Gendered |
| | Male | 30.1 | 33.2 | 29.9 | 30.2 | 31.4 | Austerity |
| | | | | | 30.3 | 32.9 | Gender Neutral |
| | | | | | 30.3 | 32.4 | Gendered |
| Core Eurozone | Female | 36 | 40.5 | 41.8 | 41.9 | 42.5 | Austerity |
| | | | | | 42.1 | 45.2 | Gender Neutral |
| | | | | | 42.5 | 45.6 | Gendered |
| | Male | 46.2 | 48 | 48.1 | 48.2 | 48.4 | Austerity |
| | | | | | 48.5 | 50.9 | Gender Neutral |
| | | | | | 48.4 | 50.7 | Gendered |
| United Kingdom | Female | 12.8 | 13.7 | 14 | 14.1 | 13.8 | Austerity |
| | | | | | 14.1 | 14.8 | Gender Neutral |
| | | | | | 14.2 | 15 | Gendered |
| | Male | 15.3 | 16.2 | 16.3 | 16.5 | 16.4 | Austerity |
| | | | | | 16.5 | 17.1 | Gender Neutral |
| | | | | | 16.5 | 17 | Gendered |

Comparing the austerity scenario with the gender-neutral and the gendered expansionary scenarios, show how the latter lead to significant gains in terms of employment

creation for women across Europe and without any significant employment loss for men. In particular, the gendered scenario achieves the highest gains in terms of female employment. This scenario has the potential to generate 7.4 million more jobs for women compared to the austerity scenario and 1.4 million more jobs for women compared to the gender-neutral scenario. Looking at total employment figures for the three European blocs, the gendered scenario could lead to an increase in total employment from 171 million in 2014 to 185.3 million in 2025 (compared to 184.7 million in 2025 under the gender neutral scenario and 173.7 million under the austerity scenario). Thus, we conclude the review of CAM projections by arguing that a gendered expansionary macroeconomic scenario not only leads to higher employment for both women and men but that it is a more viable economic alternative to both continued austerity and a gender-neutral expansionary macroeconomic approach.

5. Implications, limitations and ways forward

Having presented the results obtained using the CAM model we can turn to discussing the broader implications of these findings and discuss ways in which the CAM model may only be able to offer partial answers. Given the restrictions imposed by the model in its current form, we can suggest ways in which the model itself could benefit from gendered improvements.

The findings of this paper highlight the concerns surrounding continued austerity policies for men and women in Europe and demonstrate the feasibility of an alternative gendered, expansionary approach. Comparing our three scenarios also brings out the need for a gendered rather than a gender-neutral scenario. Under the austerity scenario, the results indicate continued employment stagnation, including for women. However, for a full gender analysis we would want to consider the implications of this development on unpaid household work. According to Ertürk and Çagatay (1995) and the assumption of the countercyclical nature of household labor, the austerity scenario implies an increase in unpaid household work for which there are gender implications.

Employing the same assumption regarding the countercyclical nature of household labor, the alternative non-gendered and gendered expansionary scenarios generate higher output growth, which in turn reduce unpaid work burdens. What requires a deeper assessment is the effect of the gendered expansionary scenario on unpaid work burdens. Given the increase in women's paid work in this scenario, it is unclear how unpaid work within the

household will be redistributed. In particular, what cannot be assessed by CAM is the impact of traditional family-based models of care – which are particularly resistant in the Eurozone periphery – and the lack of support for combining motherhood and work, on labour supply. This implies that in reality increases in labour demand in female-dominated sectors of the economy might not be met by corresponding increases in labour supply.

Nevertheless, we can draw three conclusions. Firstly, given that many women during this recession have not left the labor market entirely but have held on to their status as unemployed or involuntarily part-time employed (Rubery and Rafferty 2013) we can assume that the increase in employment generated by this scenario will be bringing women out of unemployment rather than out of the non-working population. The result on unpaid household work may therefore not be as extreme as under a scenario of near full employment. Secondly, we are clear that the increase in female employment needs to be intrinsically linked to public and private investment. By redefining investment more broadly than pure physical investment we assume that some of this investment will be channelled towards improving social investment and towards the redistribution of unpaid care work away from women and towards men and the state. Finally, in relation to male employment where we also model an increase in the gendered scenario (although more marginal than for women), we intend for this job creation to help address the gender balance in occupational segregation in general and in relation to unpaid care work in particular. In combination, these factors can support Ertürk and Çagatay (1995) findings that a rise in female paid employment generated by the gendered expansionary scenario may help to reduce and redistribute household labor.

A final issue warranting further discussion here relates to the comparison between the gender-neutral and the gendered expansionary scenarios. Here, we find that the outcomes on growth and employment between the two scenarios are very similar. However, the CAM model finds that the objectives of higher employment are reached by relying on a smaller boost to government spending in the gendered scenario than under the gender-neutral scenario, particularly for the Eurozone periphery. This relates to our assumptions concerning the responsiveness of employment to changes in output.

The discussion in this section has demonstrated some of the limitations of the CAM model itself in providing a fully gendered analysis. The intention in the longer-term is therefore to strengthen and corroborate the research by developing a modified fully gender-sensitive version of the CAM model. This will involve three major innovations. Firstly, the intention is to develop the gender-specific employment equations further for the European context. Secondly, we aim to add the unpaid household sector to the model to help us

understand the full linkages between paid and unpaid work. This would bring CAM closer to a ‘two-system’ gender model which includes some representation of unpaid reproductive activities in addition to sex-disaggregation of the labour market (Fontana 2014). Finally, further work on both public and private investment variables is required to allow us to fully break down investment on a sectoral basis and therefore show the outcomes of differences in social and physical investment.

7. Concluding remarks

It is increasingly evident that continued austerity policies are doing more harm than good for the economies and societies of Europe. However, the impact on gender equality is still not fully understood. Moreover, the academic debate on alternatives to austerity, both in general and from a feminist perspective, has relied on theoretical analysis and on lessons from history. This article intended to make a modest contribution to this debate by tackling the impact of current austerity policies on employment in Europe, and by modelling the economic implications of alternative gender-neutral and gender-focused employment-led policy approaches.

The analysis presented here has shown that an alternative strategy for Europe should rest on a gender-sensitive approach. Such a macroeconomic strategy is economically feasible, leading to substantial gains in terms of job creation for both women and men, as well as accelerated growth *and* debt reduction. Crucially, the analysis has demonstrated that a gender-sensitive approach is fiscally more sustainable than a gender-neutral alternative.

Thus, the recommendation that stems from this analysis is to roll back current austerity policies and embark on a new gender-sensitive expansionary economic trajectory.

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