FESSUD

FINANCIALISATION, ECONOMY, SOCIETY AND SUSTAINABLE DEVELOPMENT

Working Paper Series

No 141

Financial imbalances in the Global Economy:

Consequences for Brazil and Indonesia

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Abstract: This deliverable constructs medium-term projections for global financialisation, particularly with regard to international capital flows and their effects on the development prospects of two major emerging economies, Brazil and Indonesia. Global imbalances in trade and capital flows are expected to persist over the next ten years, within the context of subdued global growth. Brazil and Indonesia are expected to be relatively exposed to the financial turbulence that is likely to emerge as a result of these imbalances since the net external asset positions of both countries is projected to continue deteriorating.

Key words: Global growth, global imbalances, emerging economies.

Journal of Economic Literature classification ###, ###

Date of publication as FESSUD Working Paper: 141, 2016

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Introduction

This research paper constructs medium-term projections for global growth and financialisation, particularly in regards to international capital flows and their effects on the development prospects of two major emerging economies, Brazil and Indonesia.

Section 1 summarises the likely global context within which emerging economies will have to operate over the next decade.   The paper focuses on trends in the USA, Europe, mainland China, and the high-income region in East Asia outside mainland China (dominated by Japan and the Republic of Korea). Together these regions make up approximately 70% of world GDP. Section 2 delves further into the structure of external stock and flow balances for these major economic blocs. In particular, the composition of financial flows and stocks are broken down into their component parts, in order to examine the likely pace of global financialisation over the next decade.

Sections 3 and 4 assess macroeconomic projections, focusing again on the structure of external stock and flow balances, first for Brazil and then for Indonesia. These countries are chosen due to their similarity along a crucial dimension: their net external asset position. This is the stock counterpart to net capital flows, and is the difference between the value of foreign assets held by domestic residents and the value of domestic assets held by foreign residents. Table 1 presents the 2005-2015 average net external asset position, as a percentage of GDP, for a set of key emerging economies is presented in table 1:

Table 1: Average net external asset positions (% of GDP), 2005-2015

Brazil	China	India	Indonesia	Russia	South Africa
-30.9%	30.6%	-8.4%	-36.7%	13.4%	-6.3%

Brazil and Indonesia have by far the most worrying net external asset positions amongst this set of countries. As a result, they are more likely to be affected by international financial turbulence than other emerging economies.

All projections in this paper are computed using Version 6 of the Cambridge Alphametrics Model (CAM). This is a global macroeconometric model, built from behavioural equations, identities, aggregation rules and market clearing algorithms. Most of the behavioural equations are panel error-correction equations, although some parameters are calibrated indirectly, rather than freely estimated. As usual with this class of models, the projections are not merely mechanical outputs computed from model simulation but contain some degree of tempering, where necessary, by the judgment of the modeling team. All the data are from the CAM database, which mainly uses annual national accounts data from 1970 onwards.

Our main conclusions are as follows: global imbalances are expected to persist, posing severe risks for emerging economies over the medium term. In particular, our projections showcase the likelihood of a return to financial instability over the next decade, and the heightened exposure of Brazil and Indonesia to this trend.

1. Global Context

1.1 Introduction

This section summarises the likely global context within which emerging economies will have to operate over the next decade.   It does so by focusing on the USA, Europe, mainland China, and the high income region in East Asia outside mainland China (which is summarised as "Other East Asia High Income" or OEH). Since these blocs together account for approximately 70% of world GDP, their performance is particularly pertinent to the development prospects of emerging economies over the medium term.

This Section 1 is divided into 5 further sub-sections. Sub-section 1.2 examines projected GDP, investment and government-expenditure growth. Sub-section 1.3 examines projected labour productivity levels. Sub-section 1.4 examines projected real bond yields and price inflation. Sub-section 1.5 examines projected current account balances, and sub-section 1.6 concludes.

Our conclusions are largely consistent with those of a number of other sources: global growth is expected to remain subdued over the medium term. Together with this trend, global imbalances are expected to persist. This particular aspect of the projected global context is explored further in section 2. It is within this global context of subdued growth and continued imbalances that emerging economies will have to develop and avoid financial contagion.

1.2 Global Growth

Global growth in gross output is projected to remain subdued by historical standards, with European, "Other East Asia High Income" (OEH) and US growth rates all projected to be close to their post-2000 averages over the medium term. Chinese growth is projected to slow somewhat, averaging between 7% and 8% over the 2016-2025 period. Figure 1 summarises these projections, which appear plausible mainly on the basis of the long-run historical record of these blocs.

The Chinese stated target of a "new normal" of around 7% GDP growth might imply that the CAM's projected rate is optimistic since the current consensus among international analysts suggests that it is more likely to be even lower. This judgment is based, in part, on the recent outbreak of turbulence in the Chinese financial markets. Despite such reservations, it is notable that China is still the only major country/region projected to maintain a growth rate of above 3% over the medium term. Moreover, growth rates in China that turn out to be less than the CAM projects will merely reinforce the pessimism of our general assessment, which points to the likelihood of slow global growth and increased financial turbulence over the next ten years.
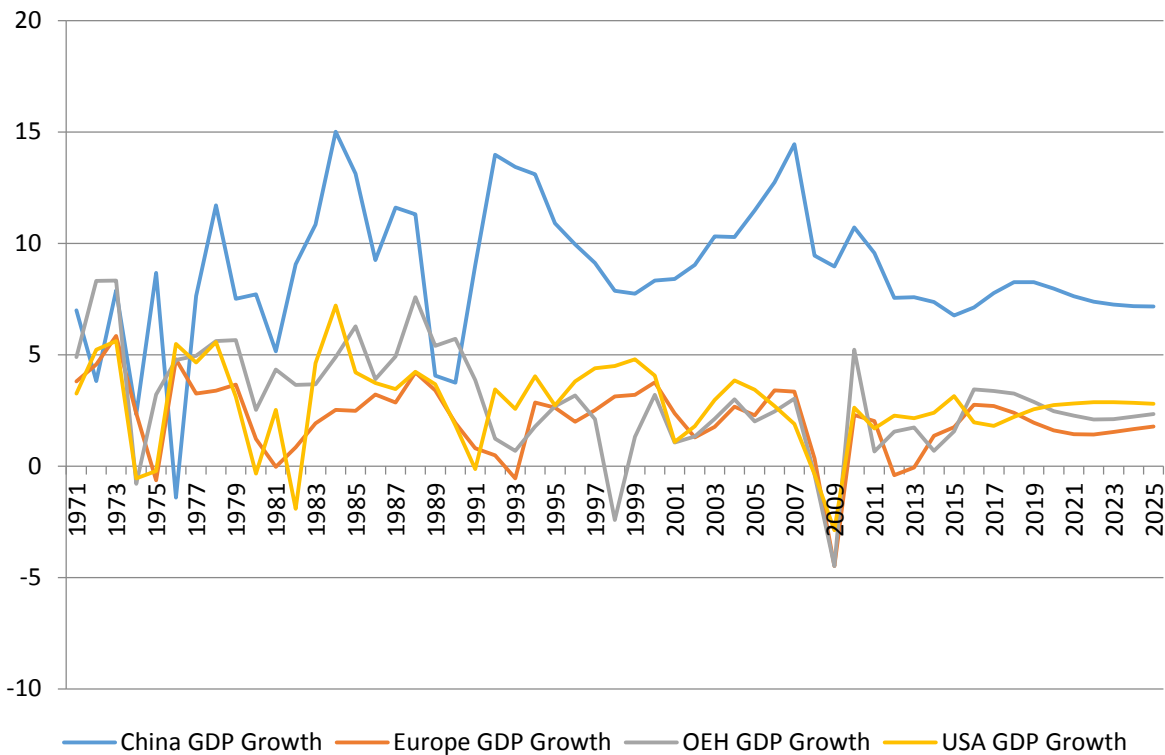
Figure 1: GDP Growth (%)

Given that these global growth projections are largely consistent with recent historical experience, the relative positions of the components of domestic aggregate demand are also expected to remain generally stable. Figures 2 and 3 chart projected growth in gross investment expenditure on fixed capital and projected growth in government expenditure on goods and services, respectively. Both of these historical series are indeed considerably more volatile, for each region, than GDP growth. But the projected rankings by investment growth and government expenditure growth across China, Europe, OEH and the USA are the same as the rankings by GDP growth, and the magnitudes imply relatively stable projected shares of GDP over the medium term.

Given the results depicted in Figure 1, the projections charted in Figures 2 and 3 do not imply notable increases in levels of investment or government expenditures. In both Europe and OEH, investment expenditure (GFCF) is expected to grow at approximately its long-run average over the medium term – namely, around 1.8% and 2.4% per annum, respectively. Importantly, these trends imply that aggregate investment expenditure will be relatively unaffected by historically low projected global real interest rates (see below).
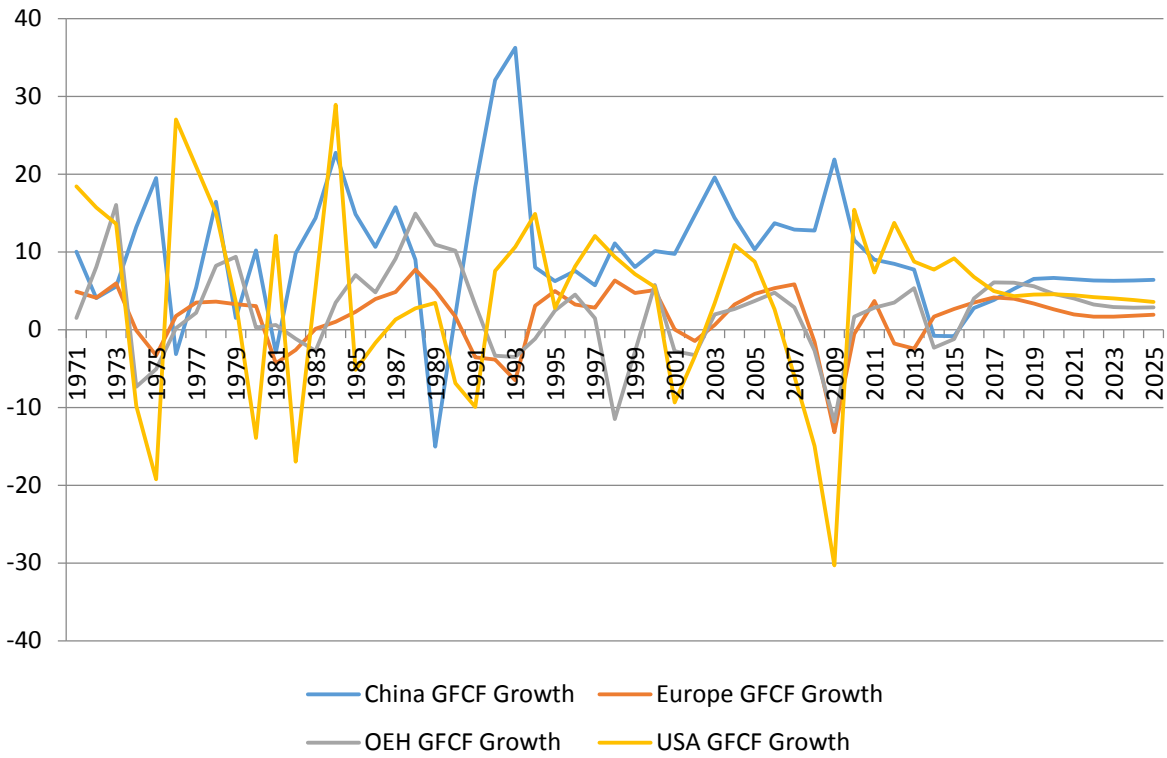
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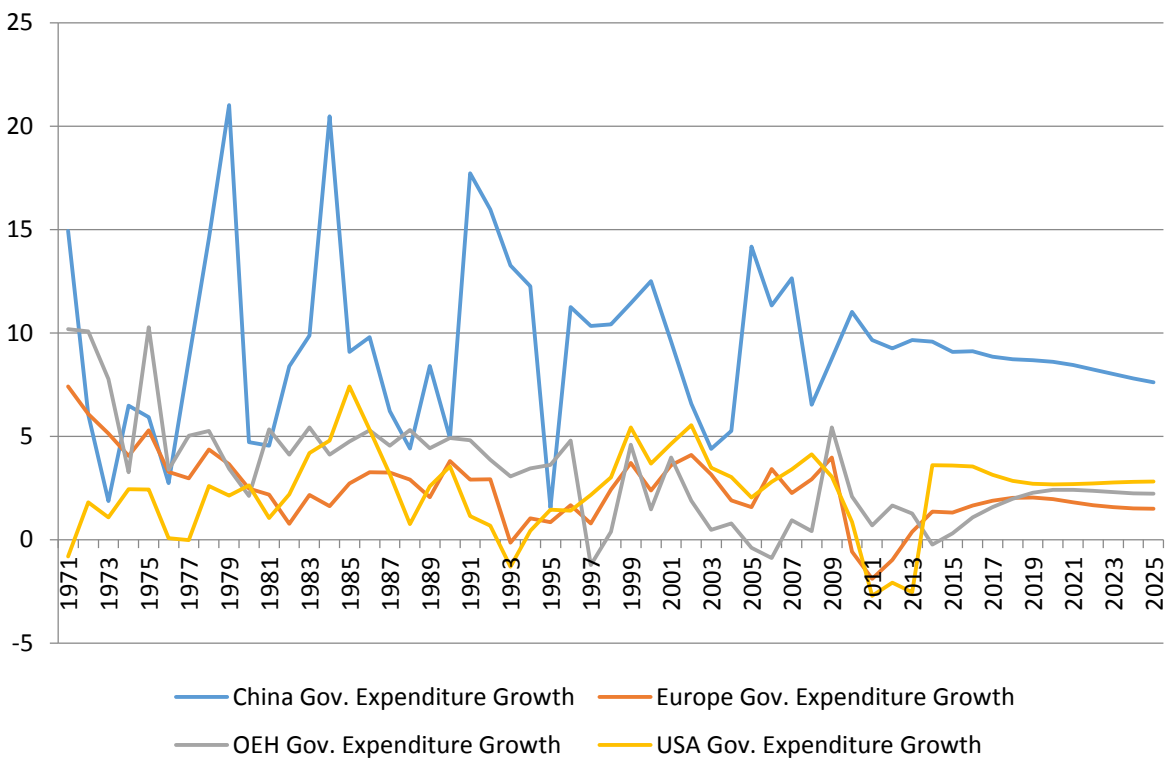**Figure 2: Capital Investment Growth**

Figure 3: Government Expenditure

Although the price inelasticity of aggregate fixed capital investment is well known and largely understood (see e.g. Caballero 1999), it tends to be played down in macroeconometric models, where the link between the cost of capital and aggregate investment expenditure is an important stabilising mechanism (see e.g. OBR 2011, particularly pp. 48). At the same time, if government expenditure growth is expected to remain at close to its long-run average—which is the case for the regions considered here—then government expenditure as a percentage of GDP will drift up if GDP growth as a whole continues to be subdued.

1.3 Labour Productivity

Figure 4 charts projected labour productivity levels (output per person employed). While the implied growth rates are largely consistent with historical experience, with Chinese labour productivity growing at a particularly fast rate, it is still the case that the growth rates of Chinese GDP and labour productivity imply that Chinese living standards will not catch up with the highly developed regions of the world until at least the middle of the twenty-first century. Hence, while it is true that the global economic centre of gravity is moving towards East Asia, this shift continues to be at the level of total GDP, rather than GDP per capita.

1.4 Bond Yields and Price Inflation

As noted in section 1.2 above, real bond yields are projected to persist at their historically low levels. Figure 5 charts the US long-term real bond yield, which is projected to continue its steady decline, a trend that was begun in the early 1980s. This pattern is shared among other countries and regions, with the OEH long-term real interest rate in particular expected to continue at close to zero percent. These low global real rates result from low short-term nominal interest rates (which are themselves in response to historically subdued inflation), which feed through into bond yields.
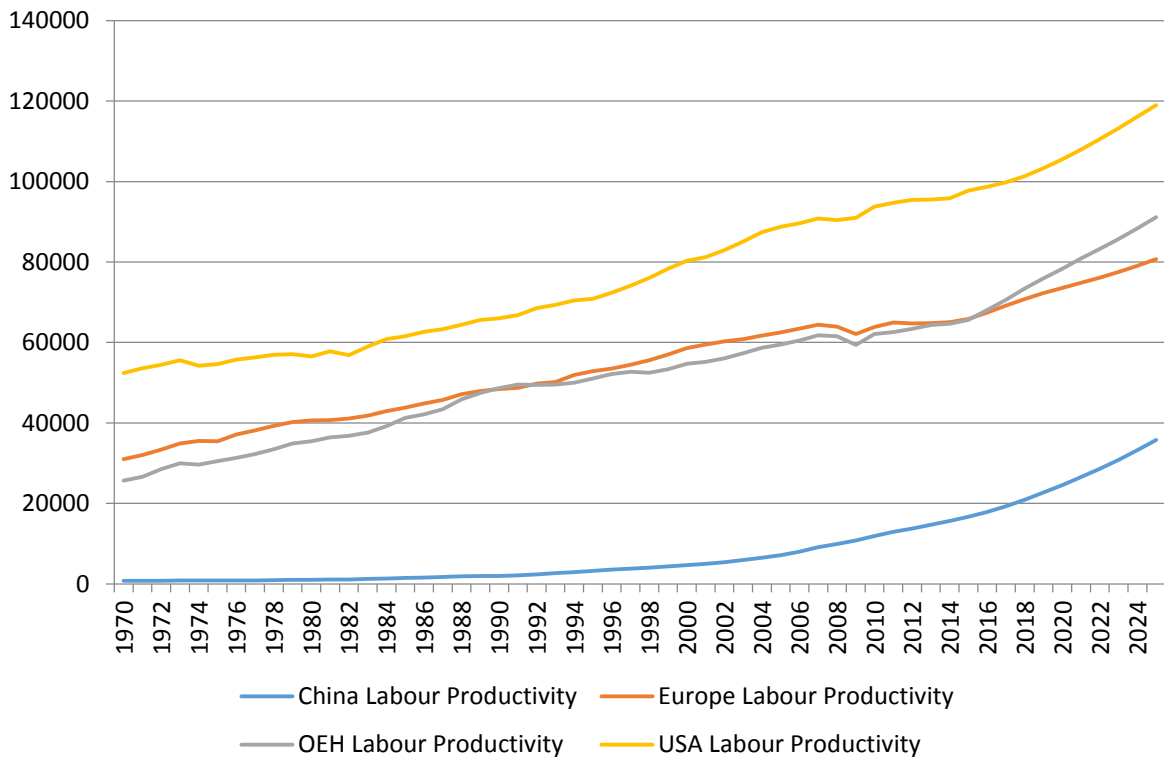
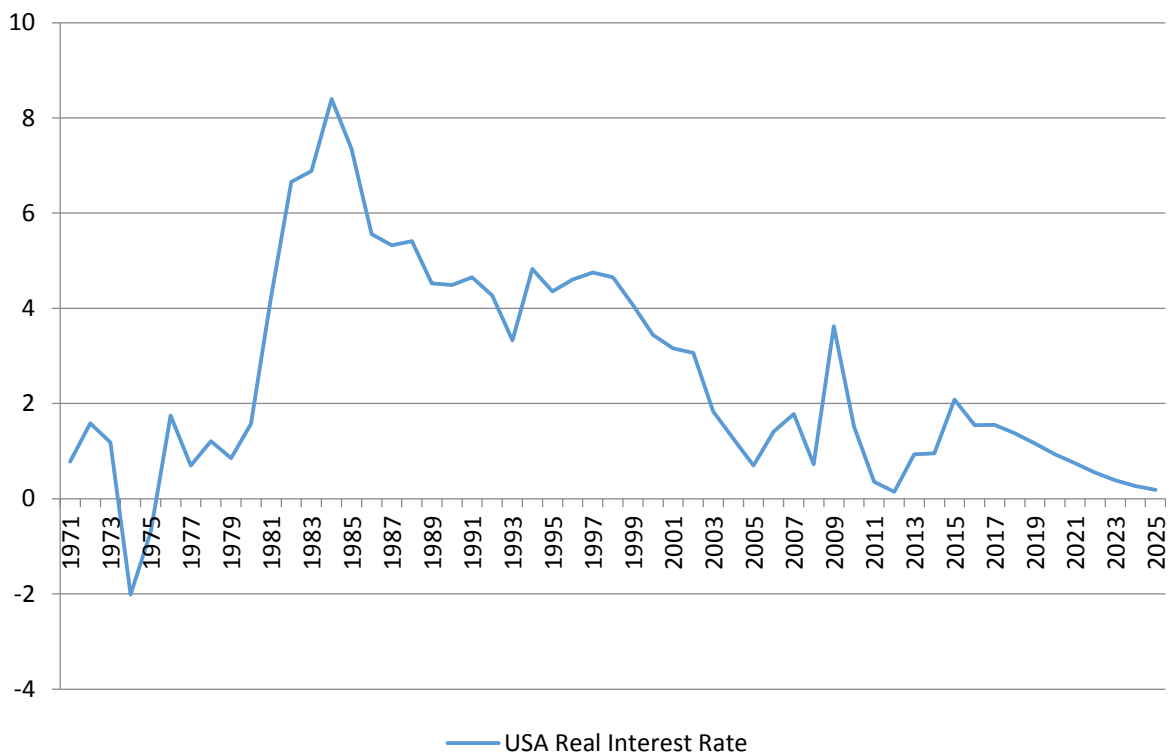**Figure 4: Labour Productivity**

Figure 5: US Long Term Real Interest Rate

Figure 6 charts the price inflation projections for our four global blocs. It is immediately clear that rising price inflation is not expected to be an issue for any of the world's major regions over the medium term. For Europe there is a more likely worrying descent into deflation.

This combination of subdued real bond yields and historically low inflation rates is consistent with the projected growth rates for China, Europe, OEH, and the USA[1]. Indeed, a number of international organisations and commentators have been coming to similar conclusions. This group includes the IMF (see WEO October 2014 and April 2015). This trend is also consistent with the "secular stagnation" thesis propounded by a number of American economists, the most prominent of whom is Larry Summers (Summers 2014). It is worth noting that the theory behind the various stagnation theses, particularly of the demand driven variety, can be traced largely to Post Keynesian and Kaleckian economists, including Josef Steindl (Steindl 1952). This trend is also consistent with the theoretical priors underlying the CAM model.

1.5 Current Account Balance

A major feature of the global macroeconomic context since the 1980s has been persistent external imbalances, particularly at the net level between the USA and East Asia. This can be documented by an examination of the current account positions for China, Europe, OEH and the USA charted in Figure 7. While the European and OEH current account positions have been relatively stable, as percentages of GDP from 1980 to 2015, both the Chinese surplus and the US deficit have widened considerably over the same period.

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[1] Note that the spike in European price inflation in the late 1980s/early 1990s displayed in Figure 6 is the result of high inflation in Eastern Europe, precipitated by the collapse of the USSR.
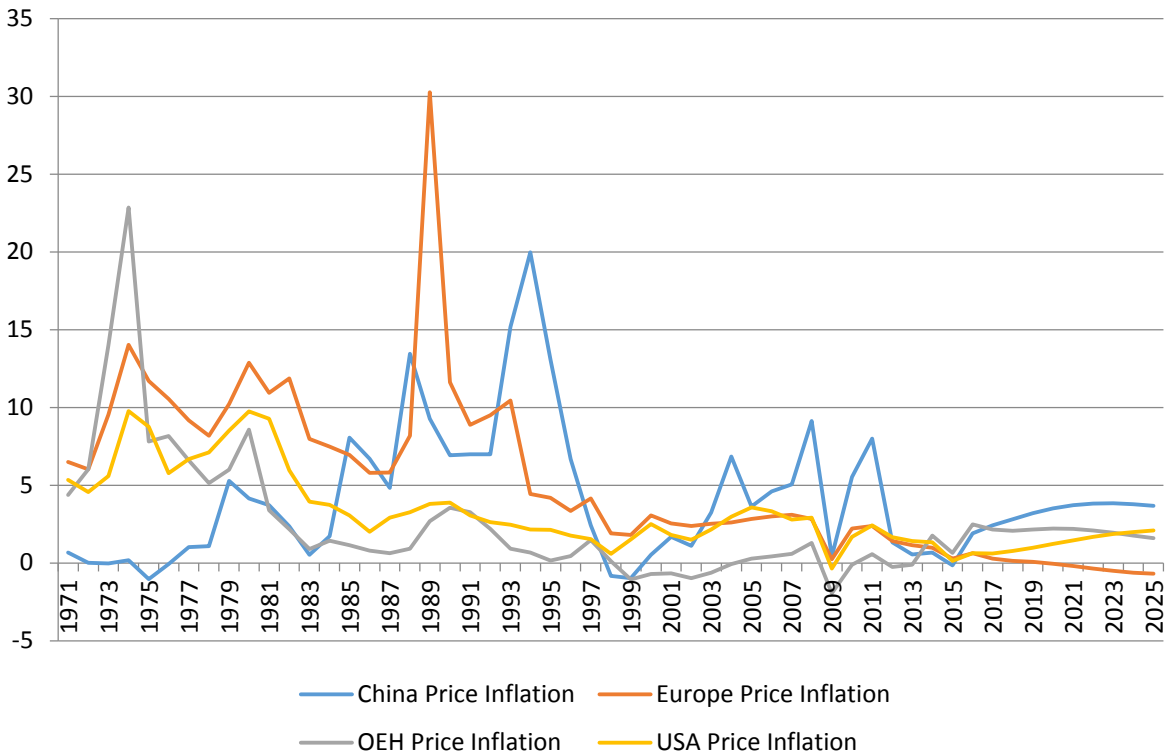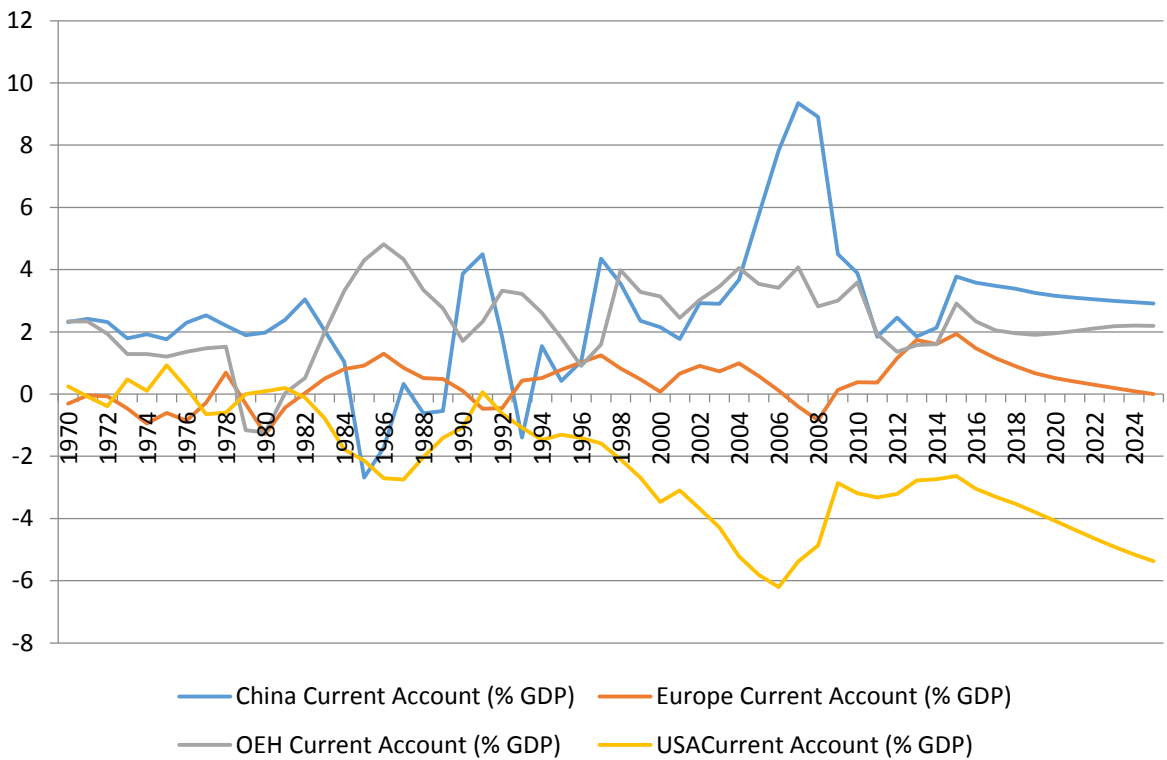
Figure 6: Price Inflation

Figure 7: Current Account Positions

While the current account position of China is expected to slowly correct over the projected horizon to 2025, the US deficit is projected to resume its post-1990 decline. In fact, over the medium term it is projected to approach its previous historical low of approximately -6% of GDP—a level that it last experienced just prior to the 2008 financial crisis. While this projected US current account deficit could prove to be unduly pessimistic, it is certainly plausible given the deficit's recent historical trend.

Meanwhile, the combined current-account surpluses of China and Other East-Asian High-Income countries are projected to remain above 5% of GDP through 2025, counter-balancing to some degree the large deficits of the USA, but still not accounting for the latter's precipitous decline. One of the major global imbalances that has characterised the post-1990 global economy is therefore projected to persist, with very little reversal over the medium term. The sources of this imbalance, and its implications for capital flows and trends in global financialisation, are considered in more detail in Section 2 of this paper. Then in Sections 3 and 4, the consequent projected economic outlook for two major emerging economies—Brazil and Indonesia—are considered within this likely context of subdued global growth and persistent imbalances.

1.6 Conclusions

The CAM's medium-term projections that have been considered in this section tend to be pessimistic. Growth rates are expected to be relatively subdued. Subdued growth in turn contributes to low inflation and low real interest rates. At the same time, the CAM projections generate fairly troubling projections of international imbalances in net trade, income and capital flows. The highlight is the continuing deterioration in the US current account position, which tends to re-assert the decline that it experienced between about 1990 and the global financial crisis in 2008. If these projections are borne out, they are very likely to be collectively unsustainable. This is, in particular, true of the US current account deficit, which is projected to approach its previous historical low of -6% of GDP over the medium term. The accompanying global environment of continued slow growth and current-account imbalances can be expected to put considerable pressure on emerging economies over the next decade—

particularly those countries with important trade and investment links to the USA and China. Any emerging economy with a relatively open external sector will likely find it difficult to shield its households and businesses from the re-occurrence of serious external financial shocks.

If global growth were to increase, inflation rates could be expected to experience a modest recovery, and debt-to-GDP ratios could, at least, be stabilised. But such a more optimistic scenario would be predicated on a slow recovery in real interest rates, rather than a sharp spike resulting from a rapid reduction in global liquidity. Under such a scenario—which is not out of the question—emerging economies would have a much more serious set of problems to contend with than subdued medium-term growth.

2. External Balances and Imbalances

2.1 Introduction

Section 1 of this paper considered projected global macroeconomic trends over the period 2016-2025. This scenario included projections of GDP, investment, government expenditures, labour productivity, inflation, bond rates and current-account balances for the USA, Europe, China and Other East Asia High-Income countries. A key characteristic of the projected global context is that global imbalances are expected to persist, and in particular the US net foreign asset position is likely to continue its post-1990 deterioration.

As noted in Section 1, global imbalances in net flows and stocks of financial assets have been widely blamed, at least in part, for the 2008 global financial crisis. Further projected deterioration in global imbalances would not, therefore, bode well for global financial stability over the medium term. The current section explores this topic further by breaking down projected net external flow and stock balances into their component parts over the period 2016-2025 for the four main global regions already analysed.

This section is concerned mainly with projecting the pace of global financialisation over the medium term. More precisely, it is concerned with both the magnitude of financial net flows and stocks relative to GDP and the external measures of liquidity and solvency for the major regions of the global economy. Section 2.2 considers sectoral net lending projections, Section 2.3 examines trade balance projections, Section 2.4 considers capital account projections and Section 2.5 examines net external asset projections. Section 2.6 concludes.

2.2 Sectoral Net Lending

Figures 8-11 chart historical data and projections (from 2016 onwards) for private-sector net lending, government net lending and net lending from the rest of the world (i.e. the capital account), all as percentages of GDP, for the USA, OEH, Europe and China. The data definitions follow the national income identity:

$$Y^N = C + I + G + (X - M) + NFI$$
$$\Rightarrow (Y^N - T - C - I) + (T - G) + (M - X - NFI) = 0$$

This identity states that gross national income, Y^N, is equal to gross domestic product (which by the expenditure method is equal to consumption plus investment plus government expenditure plus exports minus imports) plus net factor income from the rest of the world. Rearranging, we have domestic private sector net lending (income net of taxes, $Y^N - T$, minus consumption and investment expenditure), domestic public net lending (tax income minus government expenditure), and net lending from the rest of the world (imports minus exports minus net factor income, which is equal to the domestic capital account), all three of which collectively sum to zero.

Note that these sectoral net lending variables are all measured in money terms, and represent flows over a period of time. This research paper highlights them since any persistent deficit for one sector indicates an increasing stock of financial liabilities going forwards. Moreover, these stock positions—particularly if they become large relative to GDP (or any other measure of the ability of the sector in question to service interest and/or dividend payments on those

liabilities)—represent an indicator of financial fragility. Indeed, imbalances in sectoral net lending prior to 2008 were widely blamed for the global financial crisis starting in that year[2].

Figure 8 charts private-sector, government and rest-of-the-world net lending for the USA. The US capital account surplus, corresponding to the current account deficit that was examined in section 1.5, is expected to continue the secular trajectory that it started in the early 1990s. The latter is due in part to a continued deterioration in the trade deficit in manufactured goods (which will be explained in more detail below). As might be expected, the large private-sector surpluses experienced during the 2008 recession are expected to correct to more reasonable levels over the medium term.

A combination of private-sector and capital-account surpluses implies a continued government deficit (of about -5% of GDP) over the medium term in the USA. This is to be expected given the historical behaviour of the US fiscal position since the 1970s, which experienced only a brief period of surplus under the Clinton administration at the turn of the millennium. In fact, the projected government deficit is not far below its 1970-2008 average, with the increasing capital account surplus balanced by the decreasing private-sector surplus. The main point of interest is the increasing capital account surplus, and the evolution of the net external balance that the former implies. This point will be considered below.

Figure 9 charts historical data and projections (from 2016 onwards) for private-sector net lending, government net lending, and net lending from the rest of the world (i.e., the capital account), all as percentages of GDP, for the OEH (Other East Asia High Income, the dominant countries of which are Japan and the Republic of Korea). The capital account of this region has been in deficit since the early 1980s. And it accounted for the majority of US external surpluses at least prior to China's current account takeoff in the early 1990s. These OEH deficits are expected to continue at approximately their 1980-2015 average through 2025.

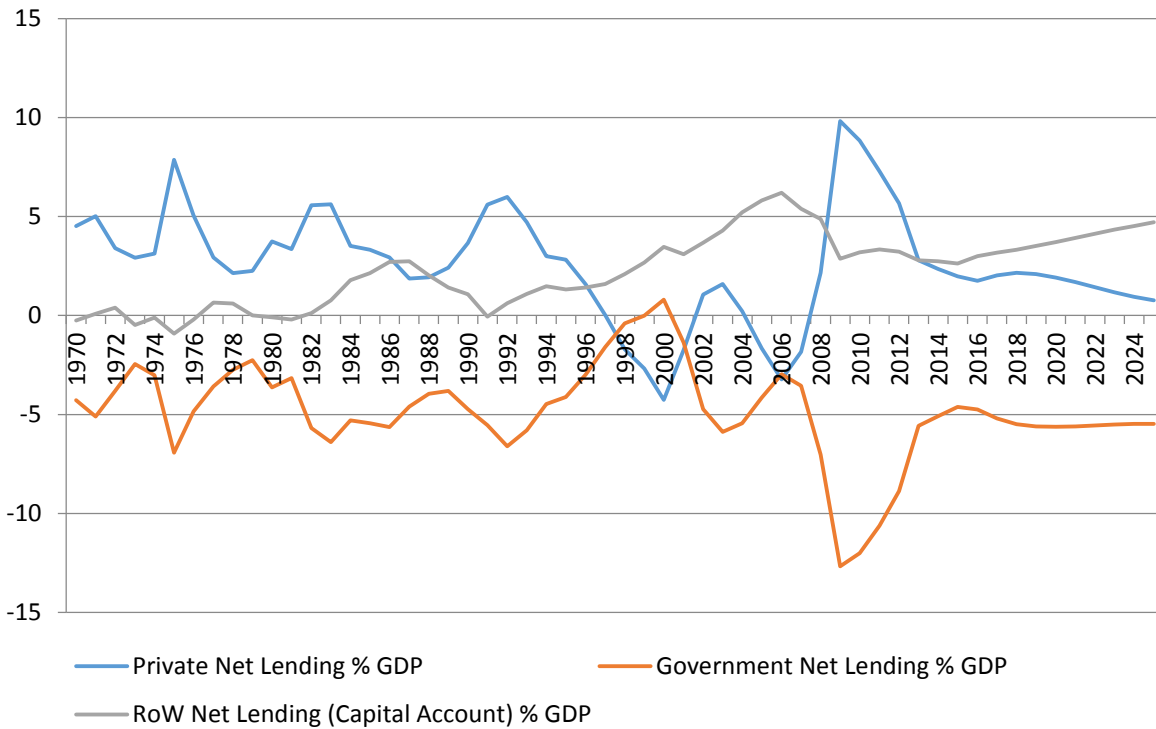[2] This argument will be examined further below.
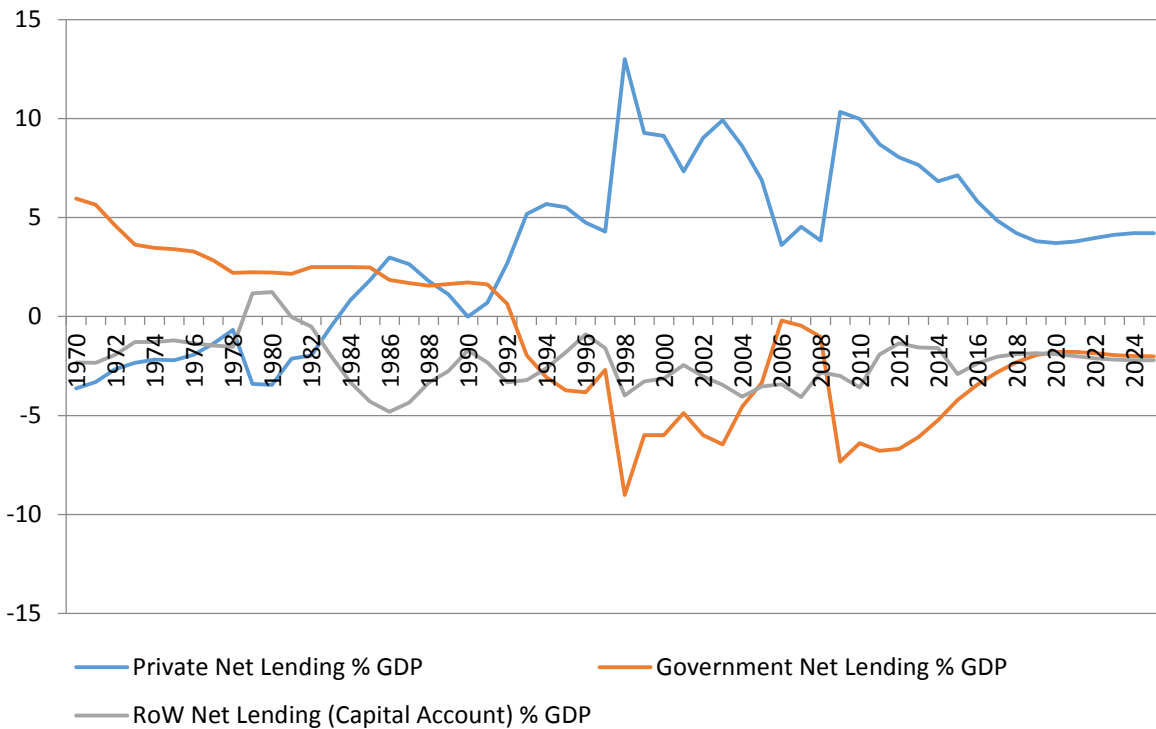
Figure 8: USA Sectoral Net Lending

Figure 9: OEH Sectoral Net Lending

On this basis, the government deficit corrections observed in the high income region of East Asia since the global financial crisis are expected to continue over the medium term, necessarily matched by a decrease in private-sector surpluses. Thus, one of the world's major imbalances in the post-1980 period—the US capital account surplus and the East Asian capital account deficit—is projected to continue over the medium term.

Figure 10 charts historical data and projections (from 2016 onwards) for Europe for private-sector net lending, government net lending and net lending from the rest of the world (i.e., the capital account), all as percentages of GDP. For Europe as a whole the projected trend is relatively promising, and does not form an important part of the global-imbalances story over the medium term. In particular, Europe's capital-account deficit is expected to correct to zero (following historical precedent), and the private-sector surpluses and government deficits are expected to continue, for the most part, their post-2008 corrections through 2025.

However, while Europe as a whole is not expected to contribute significantly to global imbalances over the medium term, a great deal of internal imbalance is hidden by these aggregate statistics. This is illustrated in Figure 11, which disaggregates the European current-account position into positions for Germany, France, the UK, the remaining "European Core", the "European Periphery", and "Other Europe"[3]. The wide dispersion of intra-European imbalances since the 1980s is immediately apparent in these data, although such trends are projected to converge somewhat over the medium term (except, however, for the UK, which is projected to be an outlier). These trends are led mainly by the substantial correction in the external positions of the "European Periphery" since 2008—as a result of drastic recessions.

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[3] The "European Core" consists of Austria, Belgium, Finland, Luxemburg and the Netherlands. The "European Periphery" consists of Cyprus, Spain, Greece, Ireland, Italy, Malta, Portugal, and San Marino. "Other Europe" consists mainly of the Baltic, Balkan and other Eastern European states, as well as Scandinavia.
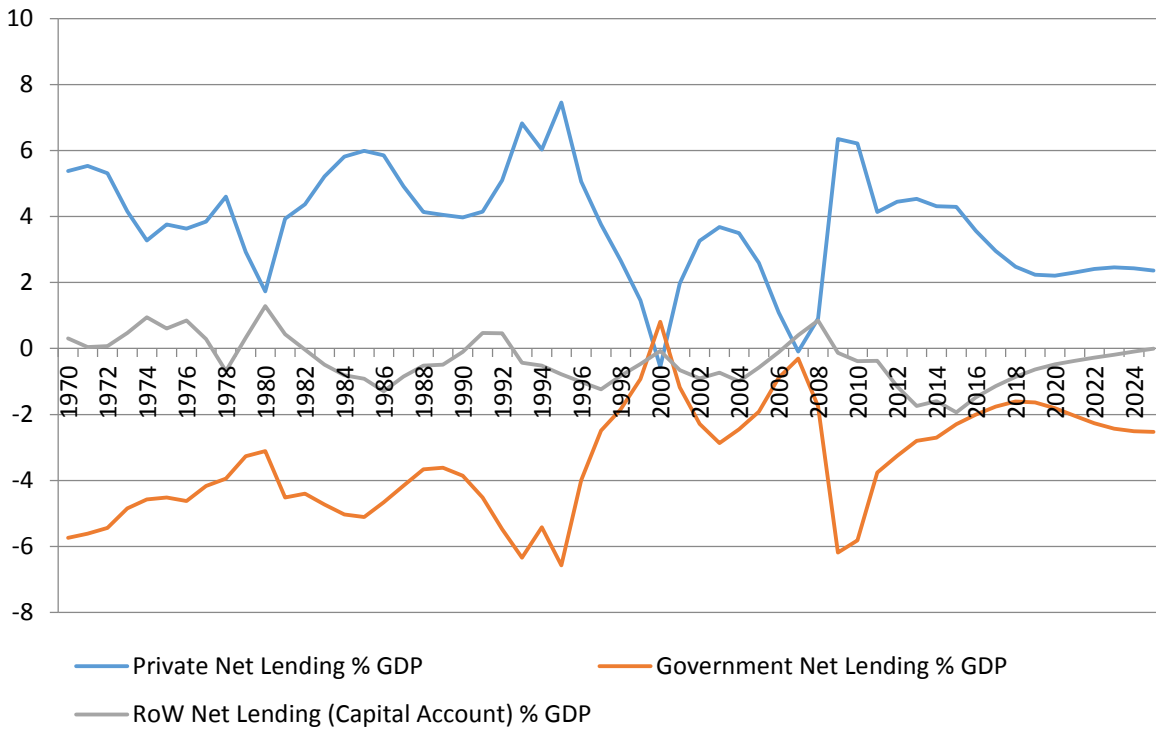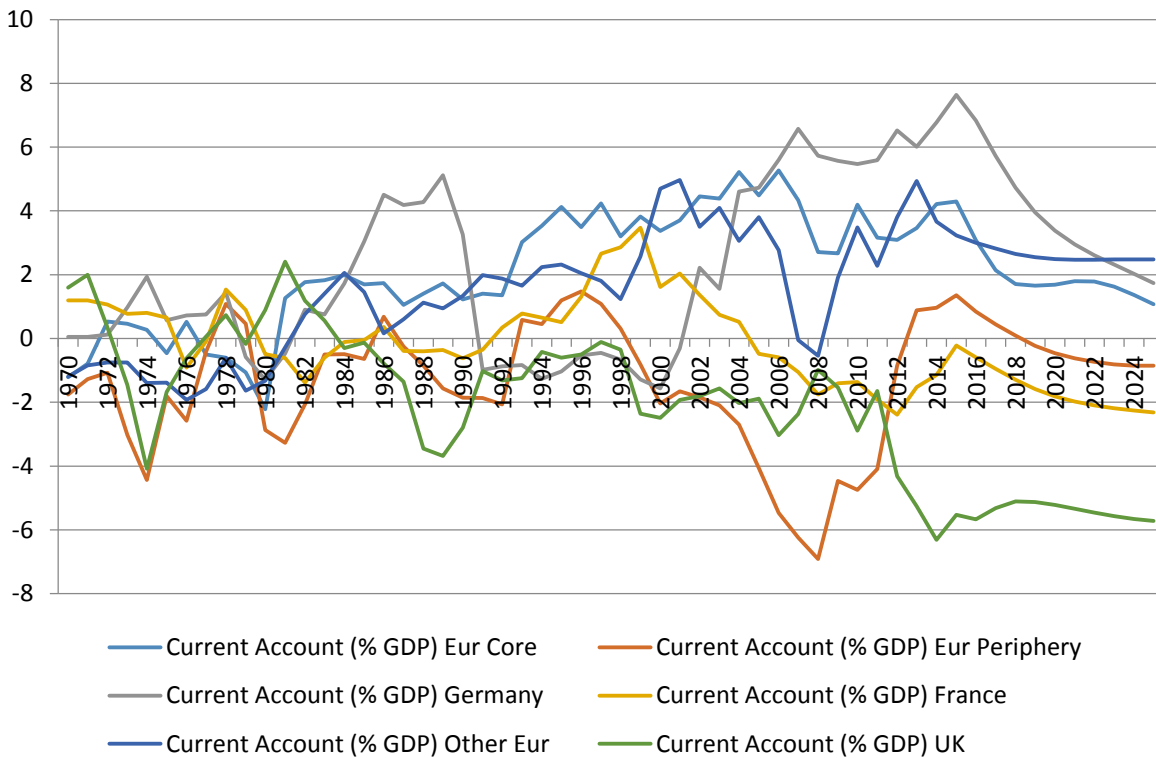
Figure 10: Europe Sectoral Net Lending

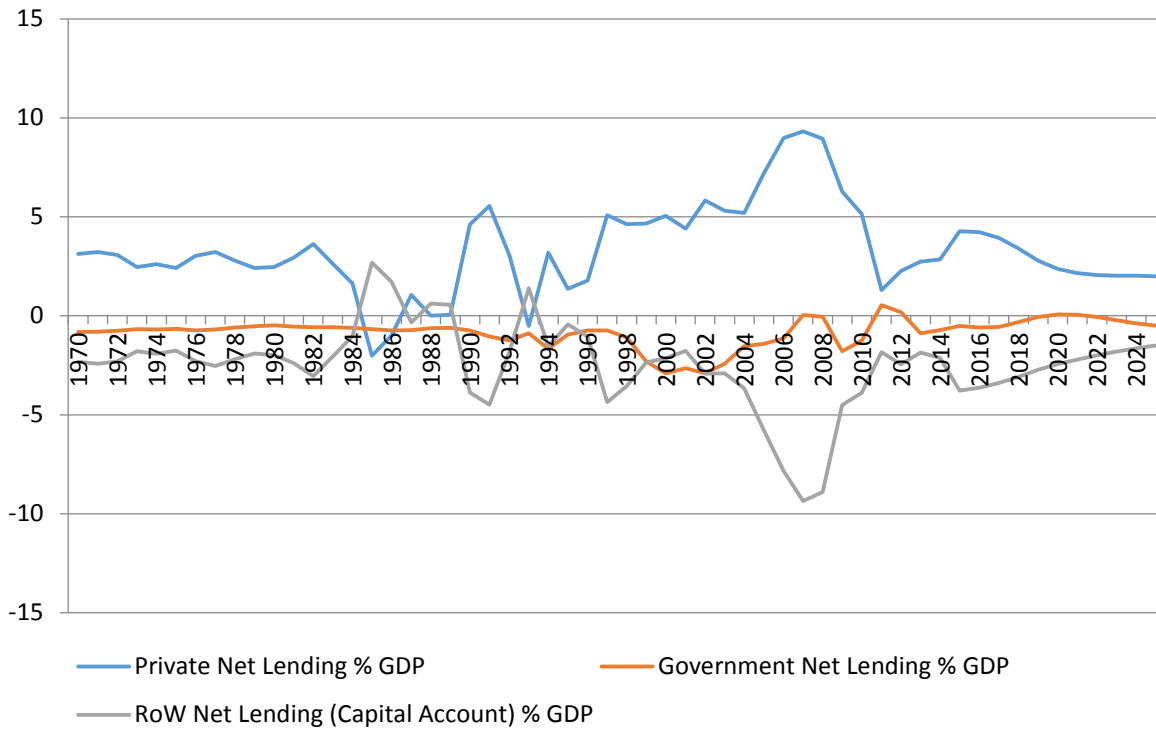**Figure 11: Europe Current Account Breakdown**

Figure 12: China Sectoral Net Lending

Finally, Figure 12 charts historical data and projections (from 2016 onwards) for China for private-sector net lending, government net lending, and net lending from the rest of the world (i.e., the capital account), all as percentages of GDP. Up until the early 1990s, sectoral net financial flows were relatively small, but China's current-account surplus (capital account deficit) became an increasingly important component of aggregate demand after this period. Since 2008 this trend has corrected somewhat, with a consequent decline in China's private-sector surplus. China's private-sector surpluses and capital-account deficits are expected to persist, to some degree, after 2015, with the government projected to run a persistently small deficit. Such a trend would be consistent with the country's historical experience.

In the medium term the Chinese capital-account deficit would be of a similar size, relative to GDP, as the OEH capital-account deficits (compare Figures 9 and 12). These are the major deficits at the global level that tend to match the US capital-account surpluses, and are consistent with the post-1980 economic landscape. If the projections of the CAM model are

taken as likely outcomes, there does not appear to be much scope for a narrowing of international imbalances in net lending over the medium term.

This view is consistent with the expectations of other observers (see, for instance, IMF 2015). Note, finally, that the private sectors in all of the regions considered here tend to be net lenders over long periods of time, with only brief spells of net borrowing.

2.3 Trade-Balance Components

As noted above, the US capital-account surplus is expected to increase somewhat over the medium term, as a percentage of GDP, while East Asian capital-account deficits are expected to persist. Thus, the major global imbalances that characterised the pre-2008 landscape are expected to continue through 2025. This section and the next examine the underlying components of these imbalances. This section examines the trade-balance components while section 2.4 examines capital-account components. Note that since the trade balance makes up an important part of the current account, which must balance with the capital account, the drivers of trade flows are important determinants of the nature of capital flows (and vice versa).

Figure 13 charts historical and projected trade-balance components (as a percentage of GDP) for the USA. These components are: net exports of primary commodities, net exports of fuels, net exports of manufactures and net exports of services. These four collectively sum to the trade balance. Notably, almost the entirety of the projected deterioration in the US trade balance (which accounts for a large part of the projected deterioration in the US current account) can be explained by deterioration in the country's net exports of manufactures. Services and primary commodities continue to record small surpluses, and net exports of fuels are projected to return to zero through 2025[4]. The deficit in manufactures, however, is projected to increase to levels last seen at the onset of the 2008 crisis.

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[4] An increase (structural break) in US fuel production has been incorporated into the programming in order to reflect recent increases in oil and gas production.
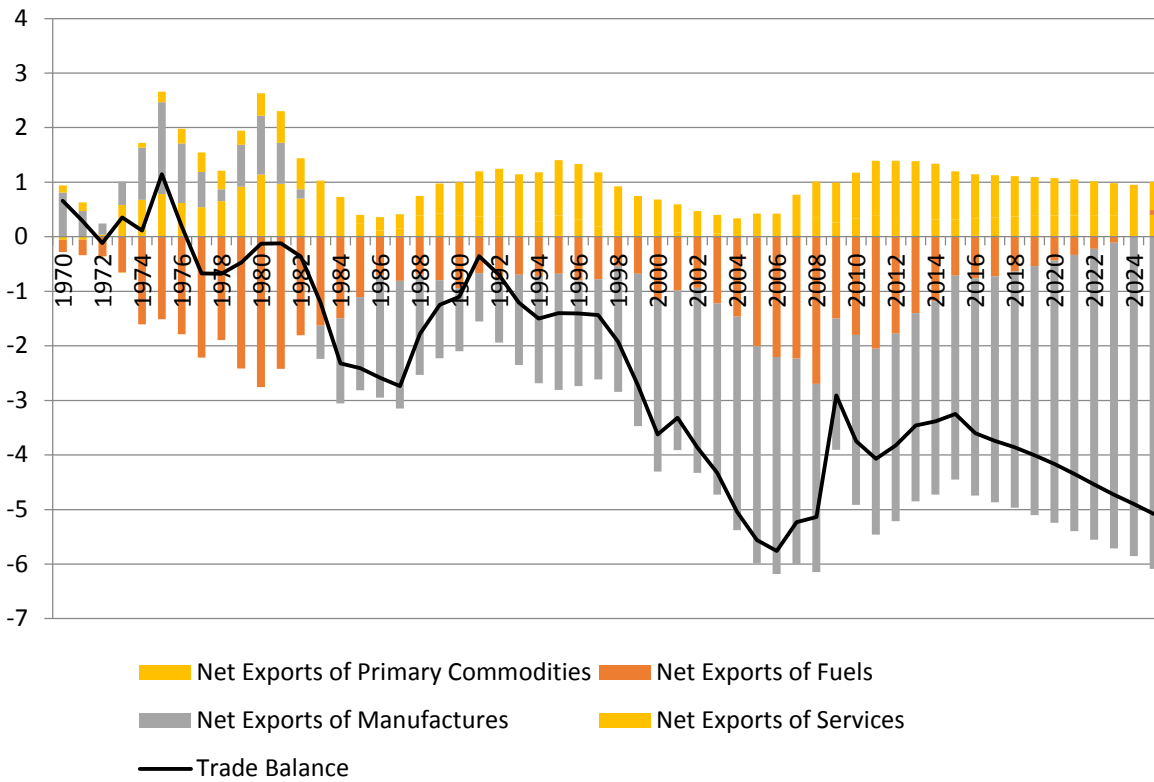
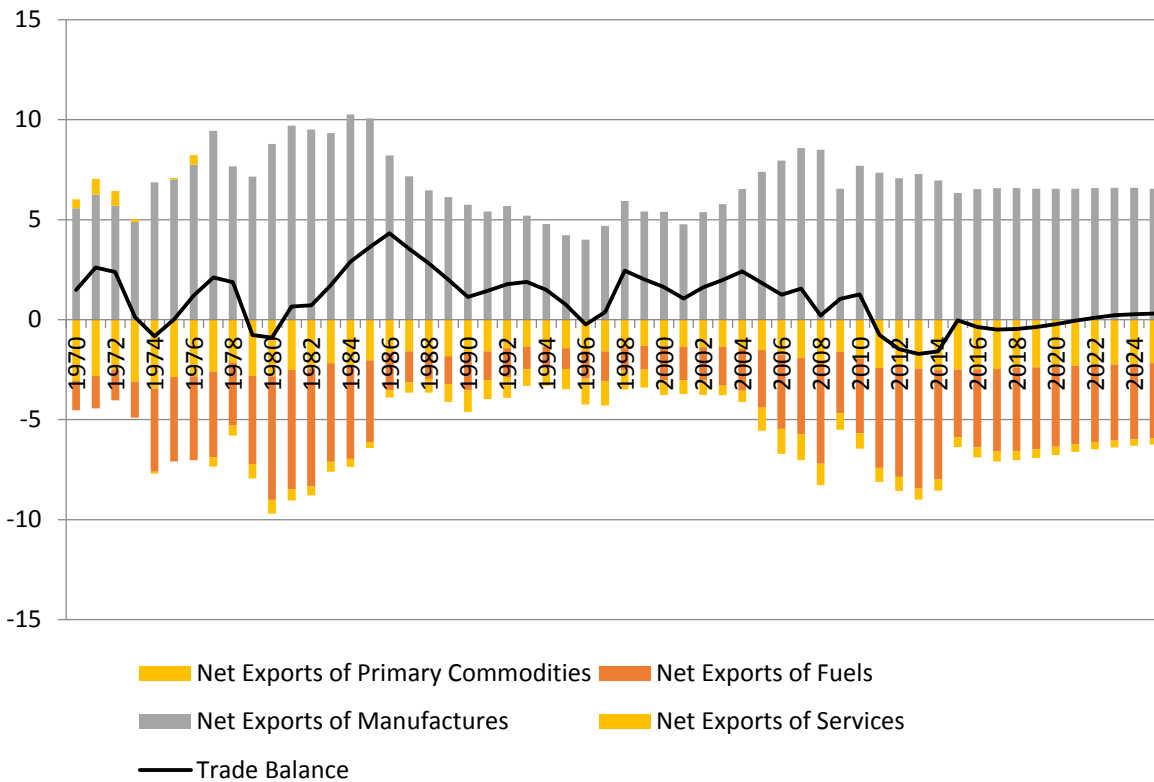**Figure 13: USA Trade Balance and Components**

Figure 14: OEH Trade Balance and Components

The US projected deficit in manufactures is matched by projected surpluses in manufactures in the OEH region and, especially, in China, as charted in Figures 14 and 16. These surpluses are largely consistent with historical experience (and remain extraordinarily high, particularly in the case of China). Note that while Germany has one of the largest trade surpluses in the world (as a percentage of world GDP), the effect of this surplus within Europe is reduced somewhat by persistent deficits in other countries. In this regard, note that in Figure 15 Europe as a whole is projected to have its trade surplus deteriorate into a deficit by 2020.

It should also be noted that the smaller oil exporting nations will continue to run extremely large surpluses in fuel exports, but the medium-term effect of this projected trend is expected to be lower than it was in the post-1970 period, especially since the USA is expected to become self-sufficient in non-renewable fuels over the medium term while, concomitantly, the importance of renewables is projected to increase. Projected oil prices are not discussed here although they are expected to increase slowly over the medium term after the marked decline seen in 2015. Primary commodity prices, meanwhile, are expected to also slowly recover.

2.4 Capital Account Components

As noted above, global imbalances in net financial flows have been widely blamed, at least in part, for the 2008 global financial crisis. While imbalances in capital flows are important in themselves, and they have also been implicated in the vast majority of debt crises of middle-income countries, the nature of the components of these capital flows is also an important factor. For example, foreign direct investment is commonly assumed to be less volatile, and in particular less prone to "sudden stops" or reversals, than portfolio investment and cross-border bank lending. The projected composition of global capital flows is therefore of direct interest when considering the pace of global financialisation over the medium term.
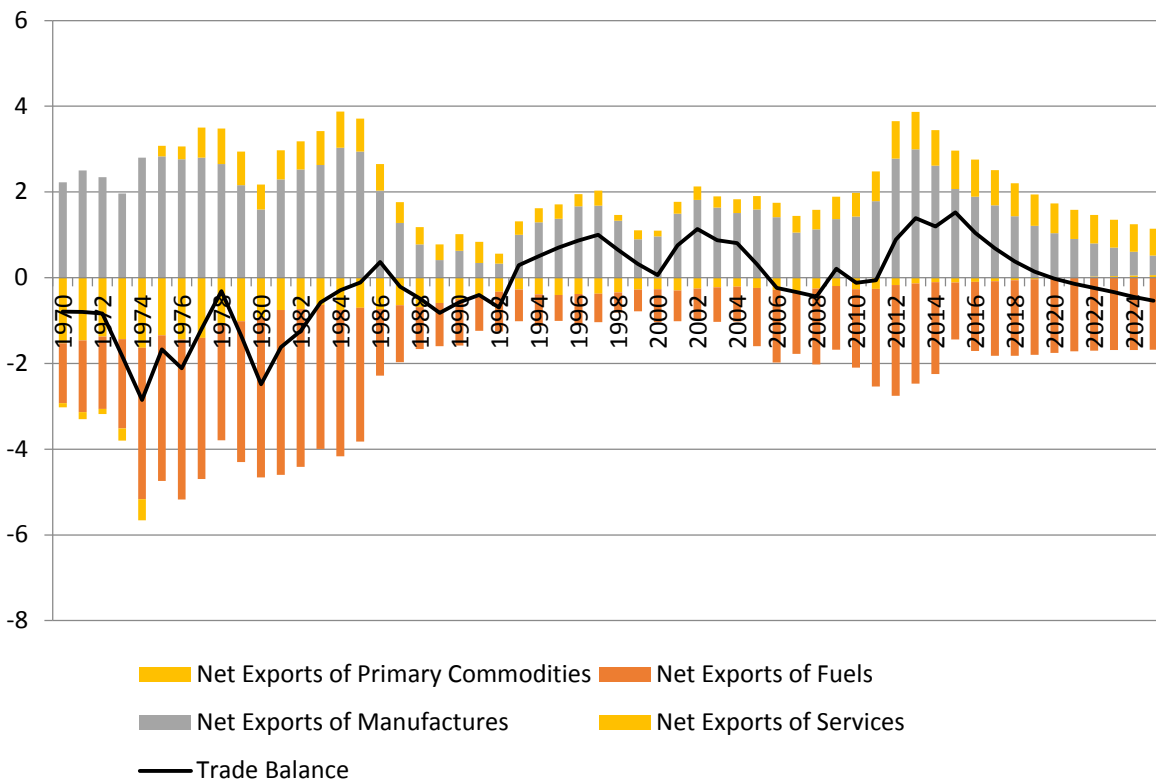
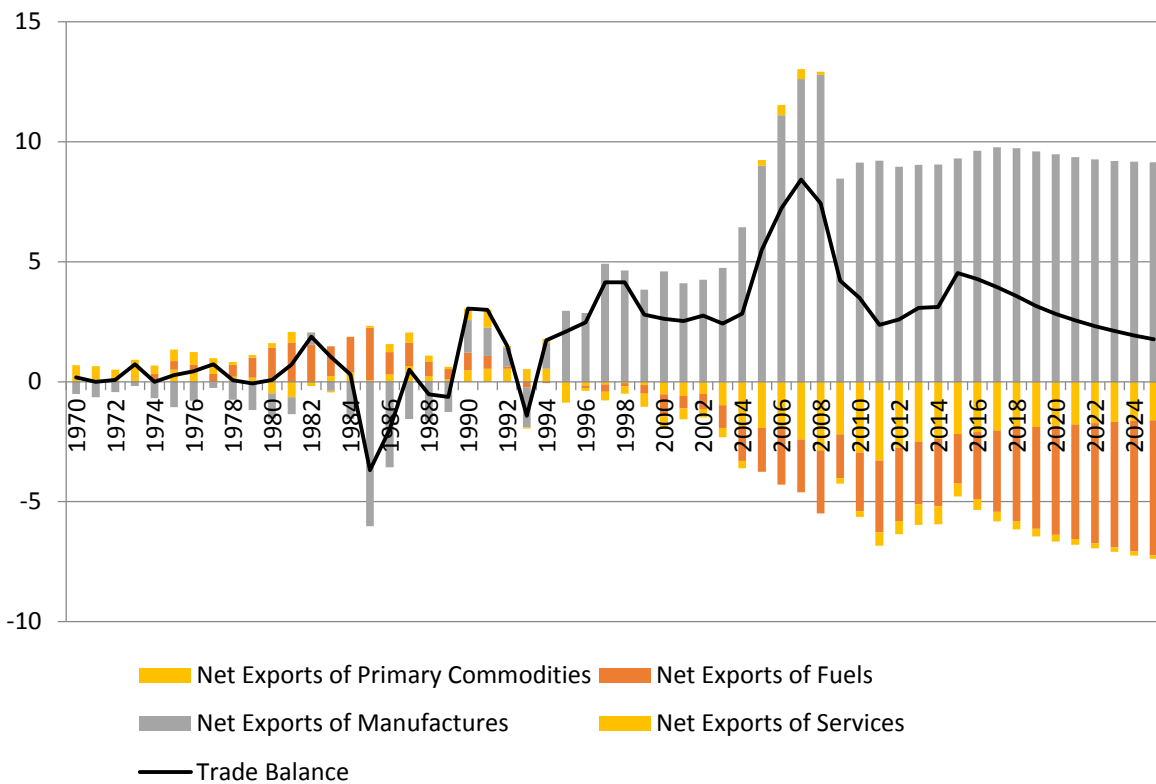**Figure 15: Europe Trade Balance and Components**

Figure 16: China Trade Balance and Components

Figures 17, 18, 19, and 20 plot the components of both the historical and the projected capital accounts of the USA, OEH, Europe and China, all as percentages of GDP. These are: net direct investment, net portfolio investment, net 'other investment' and net reserve acquisition, which collectively sum to the capital-account balance (or net lending from the rest of the world).

All definitions are in line with IMF conventions. Specifically, direct investment is any investment in which the investor gains a position of control: a direct-investment enterprise, for example, is an incorporated or unincorporated enterprise in which a foreign investor owns 10% or more of the ordinary shares or voting power. These are often branches or subsidiaries of parent firms. Portfolio investment is analogous, with the investor not gaining such a position of control. This category includes equity and debt securities, money market instruments and financial derivatives (e.g., options). Reserve assets are simply those external assets that are readily available to monetary authorities, and comprise mainly monetary gold, SDRs, reserve positions at the IMF and foreign exchange assets. Finally, net 'other investment' comprises all capital flows other than the aforementioned. This category comprises mainly trade credit, bank loans and currency and bank deposits held by private individuals and organisations[5].

Interestingly, the four major regions considered here are very heterogeneous in their capital flow composition. In particular, the USA has the bulk of its inward flows made up of portfolio investment and 'other investment', and this pattern is expected to continue over the medium term (see Figure 17). Net direct investment has been roughly in balance historically, and is expected to be in a small deficit through 2025. Meanwhile, reserve acquisition abroad is negligible. Thus the increasing capital flows into the USA are largely made up of the more volatile, more speculative portfolio and 'other investment' classes. This inward flow is not encouraging, however, from the standpoint of financial stability.

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[5] See the IMF balance of payments manual. It is worth highlighting these definitions because projecting the broad components of financial flows is not as informative as projecting the broad components of physical flows. Innovative financial instruments are often more difficult to classify than innovative goods and services. Thus, the key conceptual difference is between capital flows leading to control (direct investment) and capital flows not leading to control (portfolio investment and 'other investment'). The latter categories are naturally more speculative than the former.
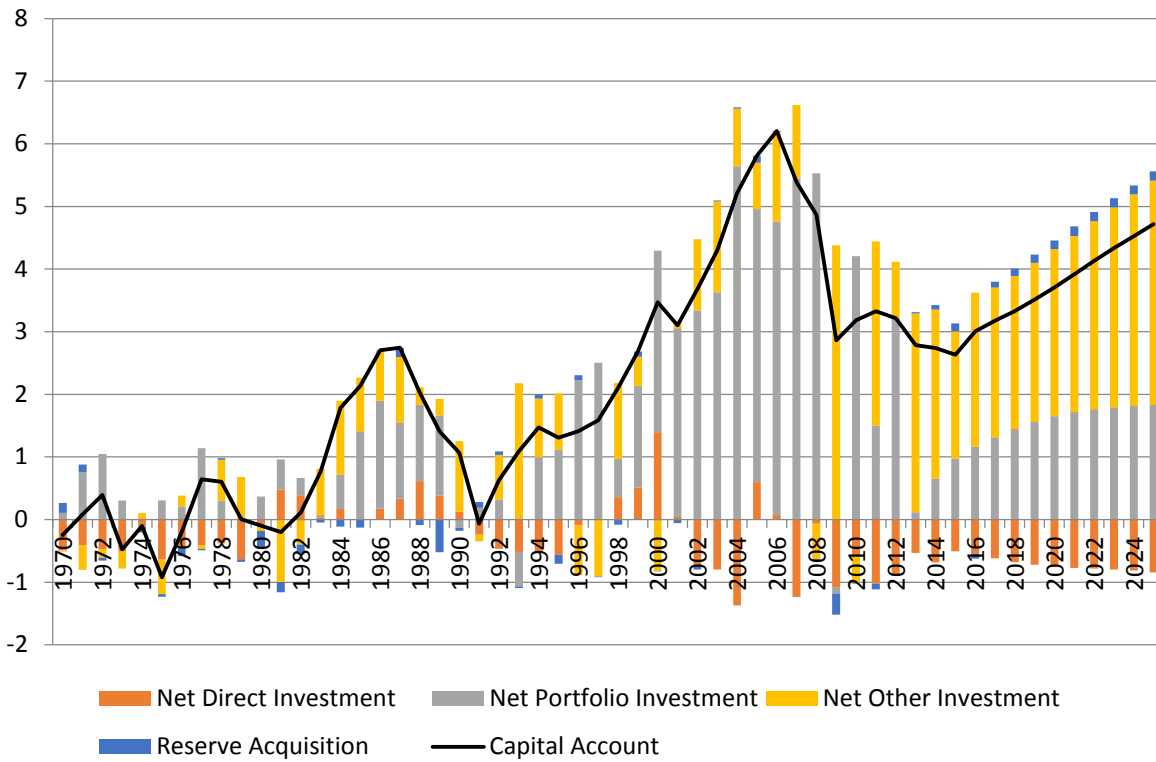
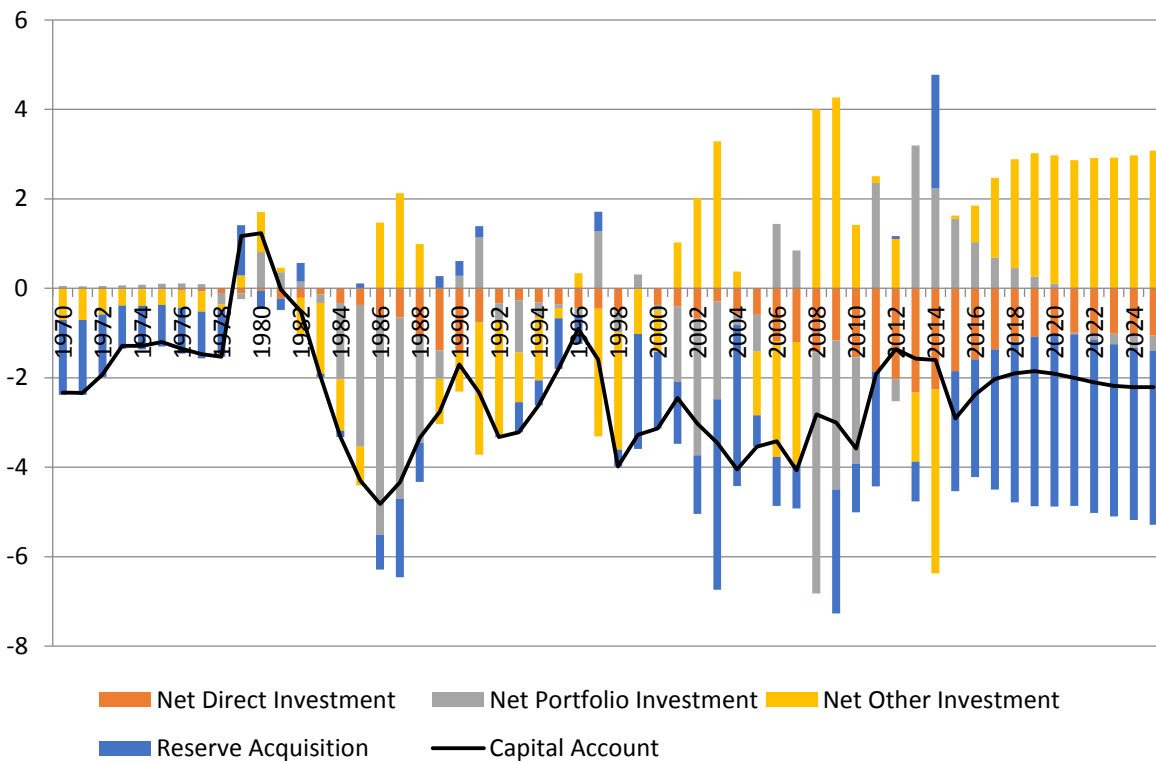**Figure 17: USA Capital Account and Components**

Figure 18: OEH Capital Account and Components

The capital-account composition is somewhat better in the OEH (see Figure 18). The main components of its historical capital-account deficits have been outward direct investment and foreign-exchange reserve acquisition, the latter of which is well documented, particularly after the East Asian financial crises of the late 1990s. Portfolio investment, on the other hand, has been relatively unimportant in most periods, especially more recently. These patterns are expected to persist over the medium term, with reserve acquisition in particular expected to remain at a high level.

As noted above, the capital account and accompanying current account in Europe as a whole are expected to return to balance over the medium term (see Figure 19). Thus, the pattern of the composition of capital flows observed in its historical data is expected to persist, with inward direct investment being counter-balanced by outward portfolio and 'other investment'. But, again, these data and projections disguise a great deal of internal heterogeneity within Europe as a whole.

China follows essentially the same pattern as Other East Asia High-Income countries (Figure 18), but to a more extreme extent. In fact, Figure 20 shows that the vast majority of capital outflows from China since 1970 have been accounted for by reserve acquisition. This is expected to continue at approximately the level observed in the mid-2000s through 2025, counter-balanced only to some degree by the inflows of the other categories of capital, especially net direct investment but also, worryingly, net 'other investment'.

Finally, it should be noted that these data deal only with net flows, and reveal very little about the magnitude or direction of gross flows. It is well known that gross capital flows are procyclical, they are considerably more volatile than net capital flows, and they tend to collapse in periods of crisis (see e.g. Broner et al 2013). In addition, gross-flow linkages signify that crisis locations are not necessarily well correlated with net-flow imbalance locations. For example, net capital flow imbalances between the USA and Asia contributed to banking failure in continental Europe because of the complex role played by European institutions in financing these flows.
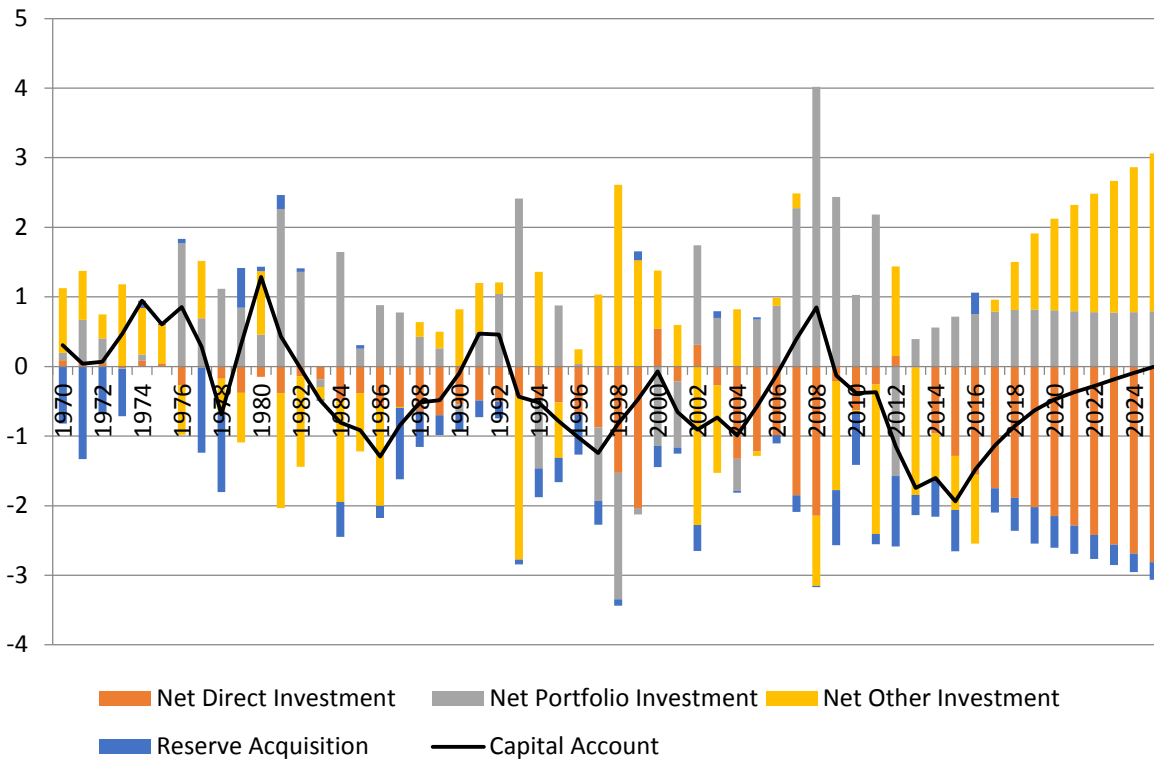
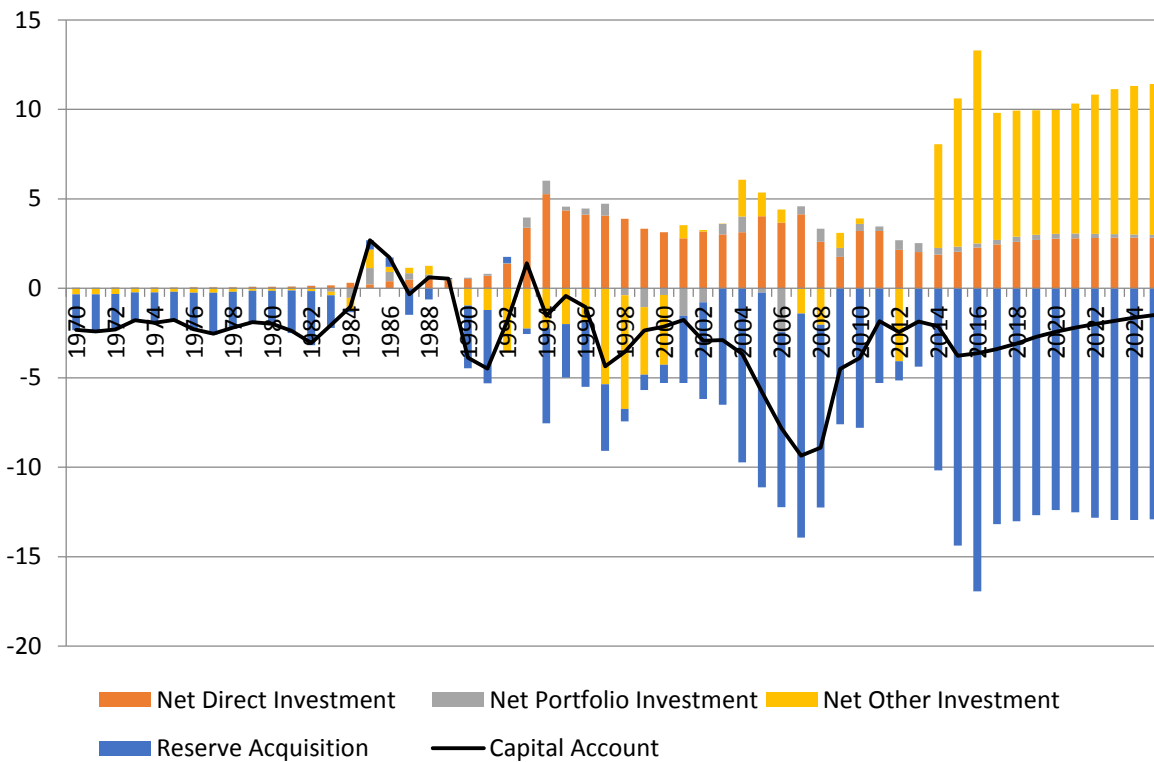**Figure 19: Europe Capital Account and Components**

Figure 20: China Capital Account and Components

The key point here is that focusing on the net positions at a country level ignores the fact that one domestic unit's surplus is not always available to pay off another domestic unit's deficit. Hence, gross exposures carry the greatest risk of crisis, rather than net exposures (Obstfeld 2012a, 2012b; see also Borio and Disyatat 2011).

However, imbalances in net flows somewhere in the international financial system do imply imbalances in gross flows somewhere in the international financial system, but not necessarily in the same place. Hence, inasmuch as imbalances in gross flows imply the possibility of a crisis, then imbalances in net flows also imply the possibility of a crisis, but the latter do not give much indication, by themselves, as to where (in terms of geography or market) a crisis will arise[6]. Our projected global imbalances in net capital flows are, therefore, still worrying for global financial stability.

2.4 Net External Asset Components

Given the nature of the historical and projected net capital flows and their components examined in section 2.3, the net external stock positions of the four major regions considered here follow straightforwardly. These data, which are based on the same breakdown as before, are presented in Figures 21-24. The main observation, which again follows automatically from the capital flow projections, is the continued deterioration of the US net external asset position (see Figure 21). This is projected to approach -60% of GDP by 2025, and to be dominated by the more speculative portfolio and 'other investment' classes.

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[6] The precise argument is as follows: because one domestic unit's surplus is not always available to pay off another domestic unit's deficit, *gross* exposures carry the risk of crisis, rather than *net* exposures. However, while net-flow imbalances are not a *necessary* condition for gross-flow imbalances, they are a *sufficient* condition. Hence, one *cannot* conclude that the *absence* of net-flow imbalances implies financial *stability*, but one *can* conclude that the *presence* of net-flow imbalances does imply financial *instability*.
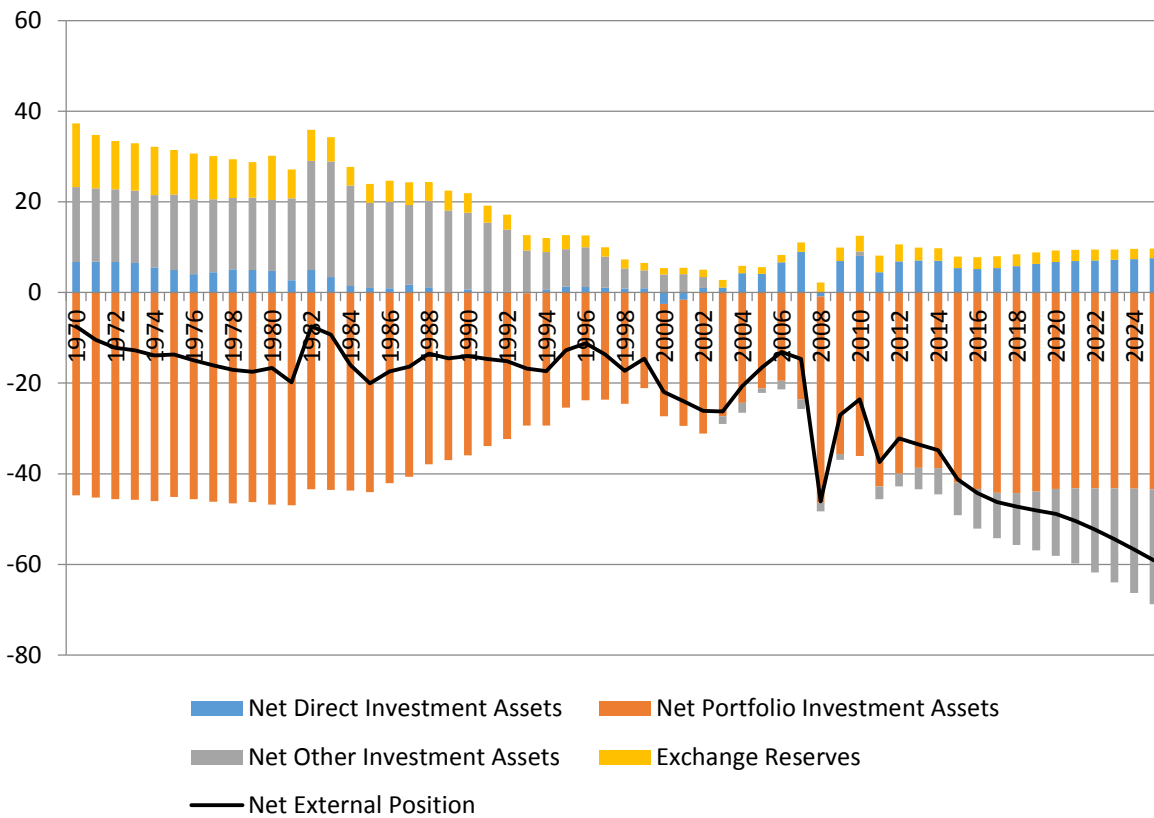
Figure 21: USA Net External Assets by Type

While these charts do not add a great deal of additional information to what has been discussed above, since they just sum up external flow positions (allowing for valuation changes), they do still serve to re-emphasise the severity of the projected scenario, particularly for the USA. At the same time, the net external asset position of other East Asia High-Income countries (e.g., Japan and the Republic of Korea) is projected to exceed +50% of GDP by 2025—though by 2015 it had already peaked at +80% (Figure 22). This asset position will be driven largely by exchange reserves.

China's net external asset position is expected to be about +40% of GDP and is also dominated by exchange reserves. This level approximates the peak that it had achieved in 2008 (Figure 23). However, China's liabilities are dominated by net 'other investment'.

Lastly, Europe's net external asset position is projected to approach zero by 2020 as its foreign direct investment counterbalances its liabilities with regard to net portfolio investments and net 'other investments' (e.g., bank lending) (Figure 24).
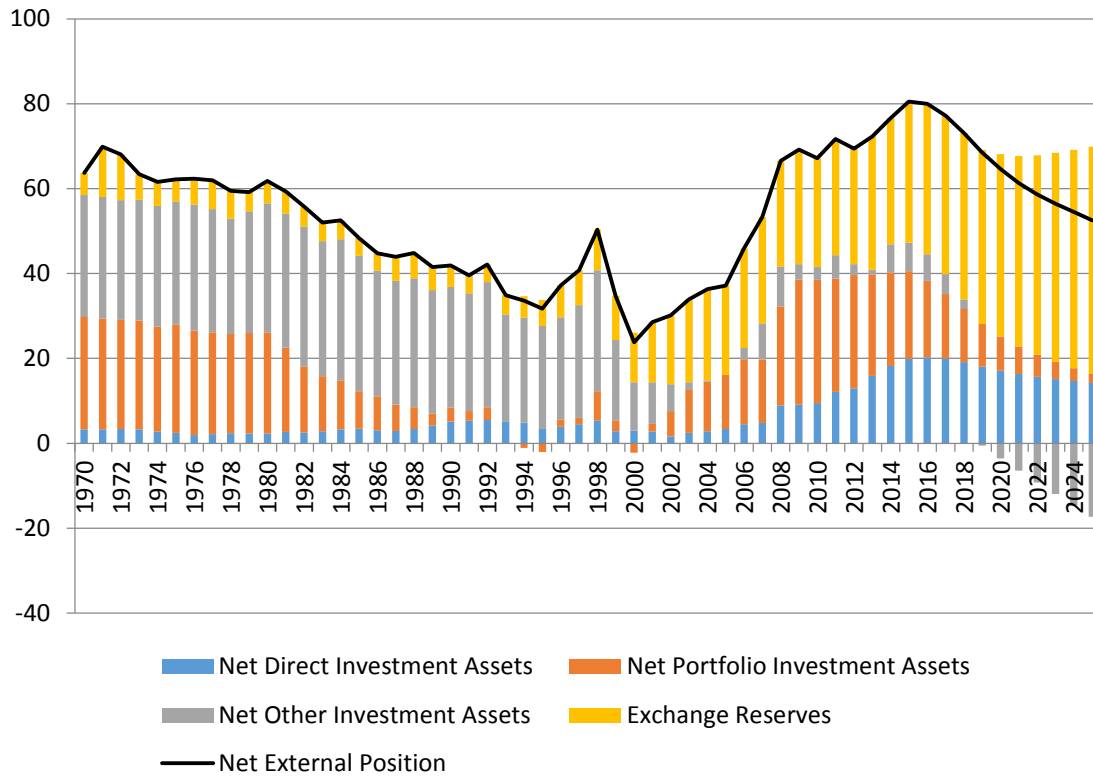
29

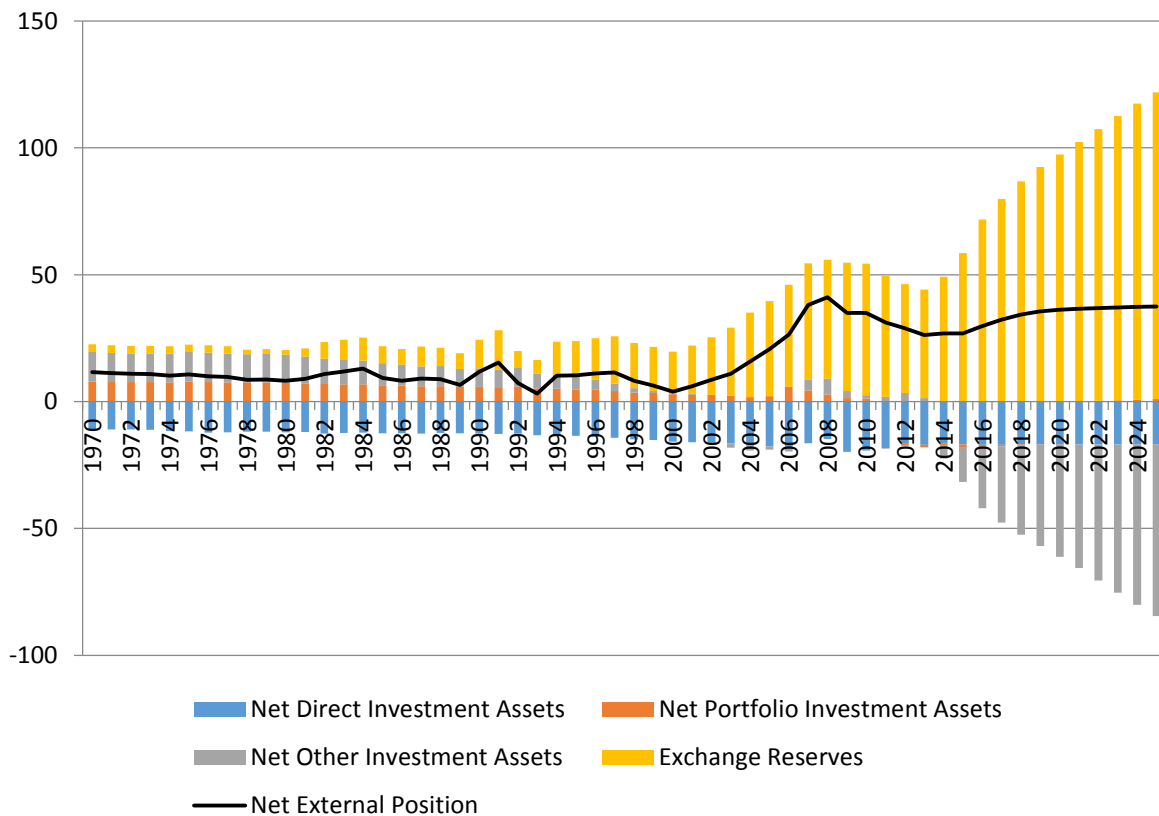**Figure 22: OEH Net External Assets by Type**

Figure 23: China Net External Assets by Type

Legend:
- Net Direct Investment Assets
- Net Portfolio Investment Assets
- Net Other Investment Assets
- Exchange Reserves
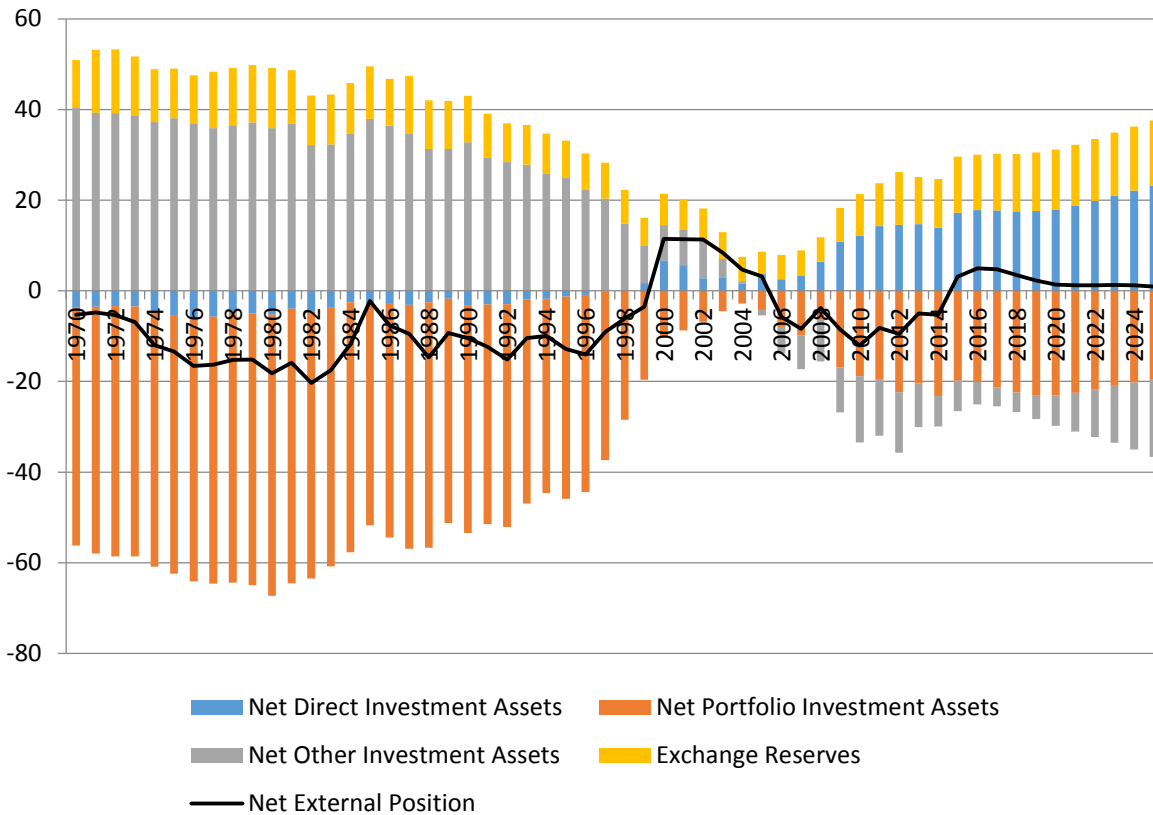- Net External Position

Figure 24: Europe Net External Assets by Type

2.5 Concluding Remarks

In summary, the large global trade imbalances experienced since the 1990s, which have been dominated by imbalances in manufactures trade, are projected to persist over the medium term. These will underlie projected significant current-account imbalances, which will be matched by opposite imbalances in net capital flows.

The major capital-account deficit region, East Asia, is projected to maintain significant reserve acquisitions, while the capital-account surplus of the US is projected to remain dominated by the speculative inflows of portfolio and 'other investment'. Since net capital-flow imbalances are a sufficient condition for gross capital-flow imbalances, this trend implies that the risk of re-occurring global financial instability will be indeed significant over the medium term.

The trends described above suggest that a reduction in global imbalances could be aided, theoretically, by a shift from East Asian reserve acquisition (by Japan, Republic of Korea and China) to direct investment in the USA. This could, conceivably, increase US manufacturing capacity, which could lead to an increase in net exports of manufactures—a process that could be facilitated by rising unit labour costs in China. Unfortunately, while low real interest rates could enable an increase in domestic manufacturing investment in the USA, they would not likely encourage, by themselves, a wind-down in reserve acquisition in favour of direct investment by East Asia.

Moreover, reserve acquisition (essentially the accumulation of claims by monetary authorities) implies a high degree of public liquidity preference in East Asia, arguably due to the magnitude of financial crises affecting these countries since the 1990s. Some analysts have argued, as an alternative, that the increased regulation of the international financial system could be a necessary condition for a shift towards direct investment and away from reserve acquisition by China and the high income region of East Asia[7].

While the position of real interest rates appears to be of importance in any global rebalancing over the medium term, the CAM projections suggest that such rates are likely to remain relatively low over the medium term. In addition, if we assume, realistically, that radical reform of the international financial system will not occur in the coming period, then net capital flow imbalances can be expected to persist, with the continued deterioration in the US net external asset position that this implies. Moreover, since continued net flow imbalances can be expected to lead to continued gross flow imbalances, further financial instability is highly likely. However, as noted above in passing, while the likelihood of financial turbulence can be inferred from the presence of net flow imbalances, the global location of such turbulence cannot necessarily be predicted.

The CAM projections suggest that continuing global imbalances are the likely medium-term context within which emerging economies must seek to develop. The next two sections of this

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[7] This follows the argument of Borio and Disyatat concerning the "excess elasticity" of the international financial system prior to 2008 (Borio and Disyatat 2011: 2).

report examine the problems that this context might pose for two such countries: Brazil and Indonesia.

3. Brazil

3.1 Introduction

Section 1 of this report considered projected global macroeconomic trends over the period 2016-2025. A key characteristic of the projected global context is that global imbalances are expected to persist, and in particular the US net foreign asset position is projected to continue its post-1990 deterioration.

Section 2 of this deliverable delved further into the projected global context by exploring global trade and capital flows and associated stock accumulations. A key characteristic of the projected period is the continued capital-flow and capital-stock imbalances between the USA and East Asia. The counterpart to the trends in capital flows is a continued imbalance in manufacturing trade between the USA and East Asia, which is not expected to correct over the medium term.

As discussed in the summary to section 2, global capital flow imbalances have been widely blamed as a contributing factor to the 2008 financial crisis. Worryingly, these imbalances are not expected to correct appreciably over the medium term, and thus there is a significant continuing risk of further financial instability at the global level. This tendency is strikingly evident when considering the projected deterioration in the US net external asset position (see, for example, Figure 21 above).

As has been widely documented, both developing countries and emerging economies were hit particularly hard by the 2008 crisis, with yearly growth declines ranging from -1.5% to -18% (Berkmen et al 2009: 6). Latin American economies in general were less affected, with growth

declines ranging from approximately -2% to -7%. But in terms of absolute declines in GDP per capita, these falls were still significant. Moreover, a key transmission channel from the largely North Atlantic financial crisis to emerging economies appears to have been the direction of capital flows themselves, rather than trade flows. On this basis, countries with more leveraged domestic financial systems tended to be affected more severely by the crisis (Berkmen et al 2009).

Brazil, in particular, suffered one of the world's largest currency depreciations as capital flows dramatically reversed direction in 2008, with its currency, the real, plunging in value by 60% against the US dollar (Kaltenbrunner and Painceira 2009). Capital outflows from Brazil were accompanied by a significant fall in GDP growth and then a sharp recession in 2008.

Given this recent history, the continued risk of financial instability resulting from persistent global imbalances poses a particular problem for emerging economies, especially those countries with very open economies and negative net external asset positions. This section, Section 3, and the next, Section 4, consider these risks for two large important emerging economies for which these conditions are present: Brazil and Indonesia. For Brazil, Section 3.2 considers GDP growth and sectoral net lending projections. Thereafter, Section 3.3 considers trade balance projections, Section 3.4 considers capital account projections and Section 3.5 considers net external asset projections.

Our summary finding is that while the CAM projection suggests that there will be a correction in Brazil's current account deficit over the medium term, this correction is not expected to be rapid enough to reverse the marked deterioration in Brazil's net foreign asset position. Since Brazil's foreign liabilities will also remain highly liquid, composed mainly of cumulative portfolio flows, there is little expectation that the country's exposure to global financial turbulence will be reduced significantly over the coming decade.

3.2 GDP Growth and Sectoral Net Lending

Figure 25 plots historical and projected GDP growth rates for Brazil, alongside the contributions to these growth rates from consumption expenditure, fixed capital investment

expenditure, inventory accumulation, government expenditure and net exports. These contributions are calculated in the standard manner, using the following decomposition:
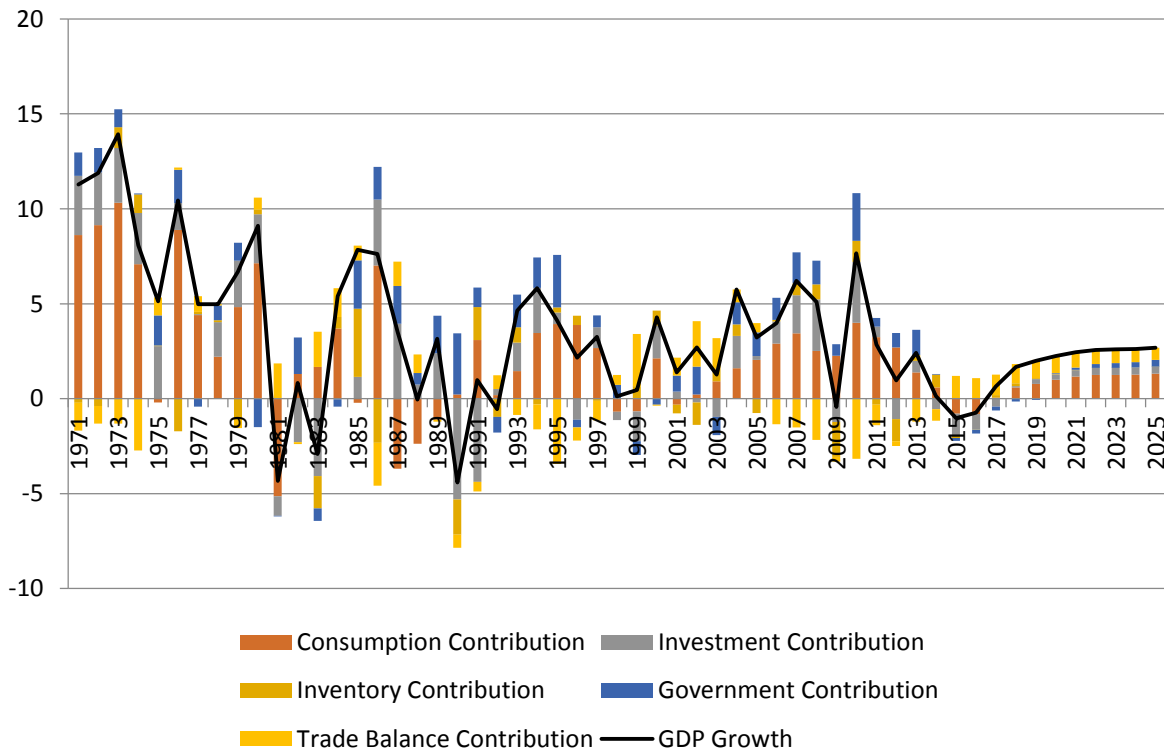

Figure 25: Brazil GDP Growth (%) and Contributions

$$\frac{\Delta Y_t}{Y_{t-1}} = \frac{C_{t-1}}{Y_{t-1}}\frac{\Delta C_t}{C_{t-1}} + \frac{I_{t-1}}{Y_{t-1}}\frac{\Delta I_t}{I_{t-1}} + \frac{IV_{t-1}}{Y_{t-1}}\frac{\Delta IV_t}{IV_{t-1}} + \frac{G_{t-1}}{Y_{t-1}}\frac{\Delta G_t}{G_{t-1}} + \frac{NX_{t-1}}{Y_{t-1}}\frac{\Delta NX_t}{NX_{t-1}}$$

This equation holds as an identity as long as: $Y_t = C_t + I_t + IV_t + G_t + NX_t$. Since 1980, according to this decomposition, consumption expenditure growth has comprised about half of total GDP growth in Brazil. Fixed capital investment and government expenditures have accounted for much of the remaining growth, while net exports have been highly cyclical. These trends are expected to basically remain in force over the medium term.

While Brazil is currently in a recession, expected to be at least -1% of GDP for 2015 as a whole, our projections imply an escape from recession by 2017. Over the medium term, Brazil's growth prospects are brighter, with its growth expected to progressively rise to 2.6% through 2025. This result would be approximately equal to its post-1990 average.
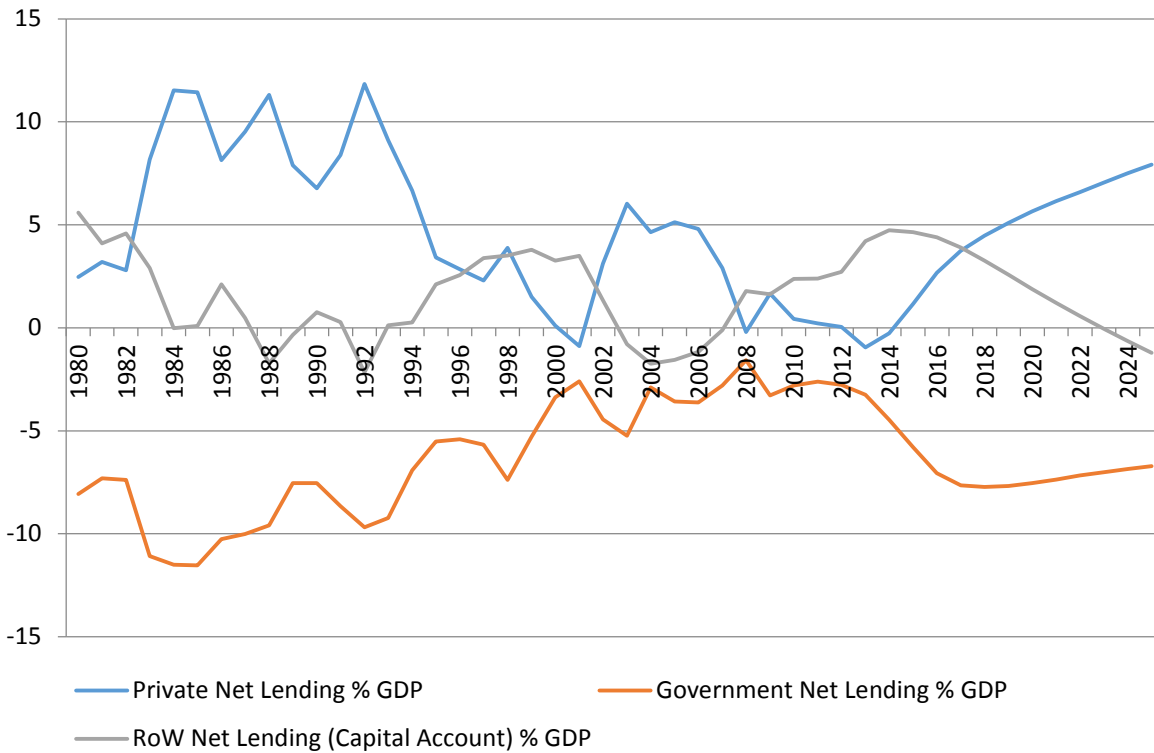
Figure 26: Brazil Sectoral Net Lending

Figure 26 highlights that this return to growth will be aided by a slow protracted return of the current account to surplus (i.e., corresponding to the movement of the capital account to deficit). But this resumption of growth will also be propelled by a widening of the government's fiscal deficit and then its continuance at -6% to -7% of GDP through 2025.

3.3 Trade Balance Components

Figures 25 and 26 imply that an improvement in Brazil's trade balance and a corresponding improvement in its current-account balance will contribute significantly to its projected growth over the medium term. However, the historical data and projections charted later in Figure 27 suggest that these trade surpluses will remain dominated by primary commodities.

Historically, net exports of services have been in deficit in Brazil, and net exports of manufactures have been highly cyclical. Both of these components of the trade balance are expected to be clearly biased towards deficit over the medium term. Exports of primary

commodities (along with fuel exports to a lesser degree) will overcome these deficits in order to produce an overall trade surplus by 2019. Though this overall projected trend is encouraging to some degree, Brazil's reliance on primary commodities (and their associated price movements) suggests that its current account could be subject to future volatility.

This potential problem is mitigated in Brazil to some degree since its commodity exports are diversified. For example, its ten most important primary commodity exports, along with the percentage that they contribute to its total material exports, are: non-agglomerated iron ore (7.9%), soya beans (7.8%), poultry meat (4.3%), oilcake (3.1%), green and roasted coffee and coffee substitutes (3%), bovine meat (2.9%), chemical wood pulp, soda, and sulphates (2.7%), raw sugar beet and sugar cane (2.6%), tobacco (1.8%) and acyclic alcohols (1.8%) (Hausmann et al 2011).

3.4 Capital Account Components

Though the continued dominance of primary commodities in Brazilian exports will remain a matter of concern, the country's trade balance as a whole is still projected to move into surplus. This trend corresponds to a move towards deficit in the capital account by the early 2020s (see Figure 28). This latter trend is perhaps of more direct importance to Brazil's ability to withstand any further global financial turbulence over the medium term. Capital flows appear to be a more important transmission mechanism of instability than trade flows for emerging economies (Berkmen et al 2009).

Brazil's trend towards surplus in its current account, which will be driven largely by a surplus in its primary commodity trade and the corresponding reversal of unstable capital inflows over the medium term are undoubtedly positive developments in terms of their potential to mitigate Brazil's exposure to global financial turbulence. However, the importance of foreign direct investment is expected to diminish over time, while the balance on net 'other investment', which can be highly variable, is projected to turn increasingly negative. Note that this category includes mainly trade credit, bank loans, and currency and bank deposits held by private individuals and organisations. Over the same time period, net portfolio investment, which can also be very volatile, will have the opposite effect of dominating financial inflows.
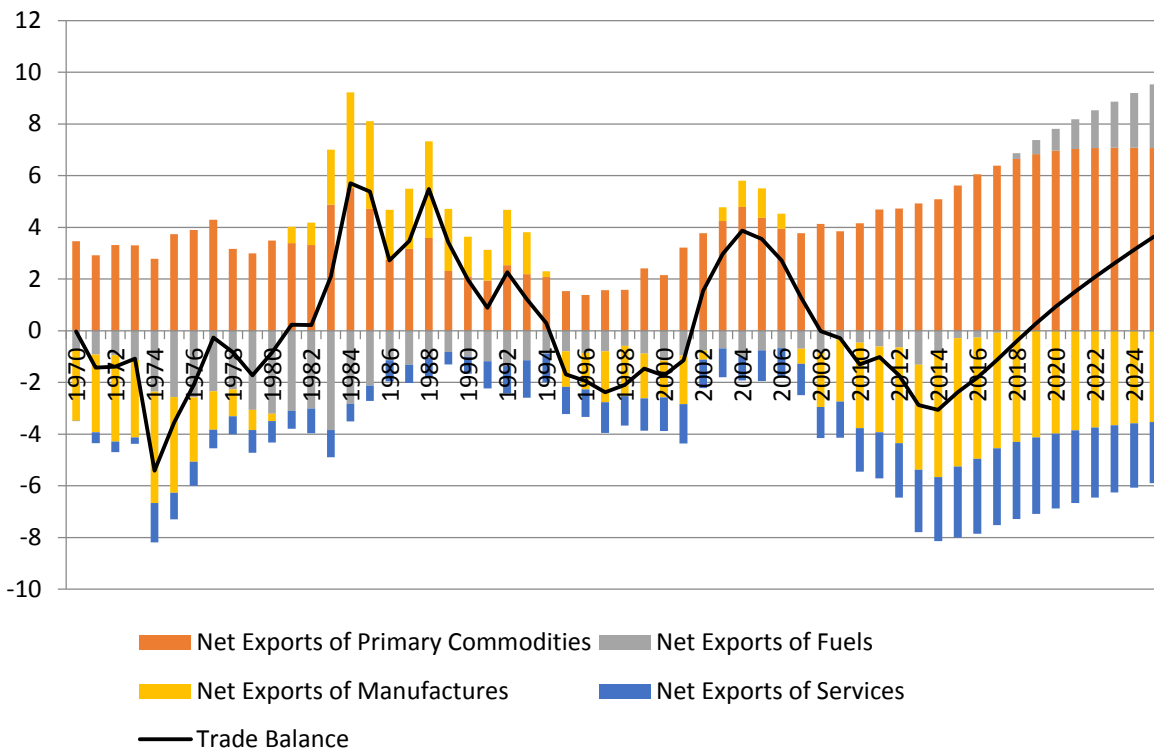
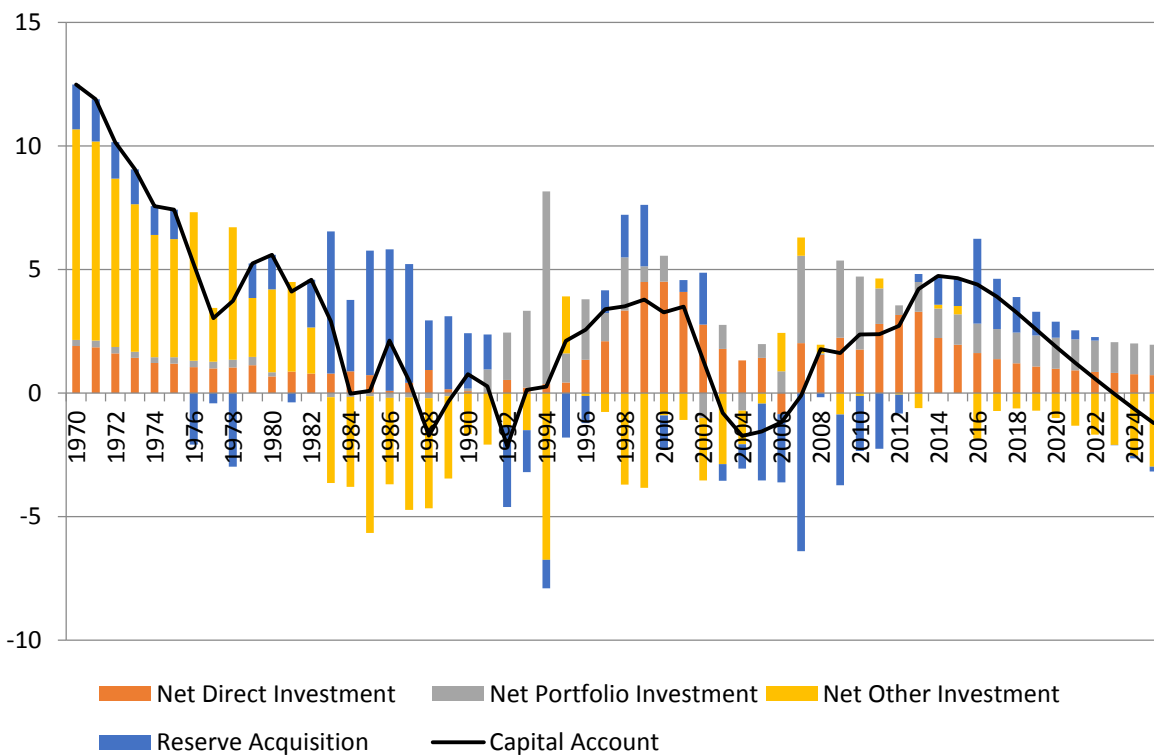**Figure 27: Brazil Trade Balance and Components**

Figure 28: Brazil Capital Account and Components

In summary, the CAM's medium-term GDP growth projections for Brazil are moderately optimistic and the trends in its trade and capital flows are also expected to be more positive. However, capital inflows into Brazil over the next 10 years are still expected to be of the relatively liquid variety, and trade surpluses are expected to be dominated by primary commodity exports—albeit they will be relatively diversified primary commodity exports.

3.5 Net External Asset Components

Given the trends in Brazil's GDP growth, trade balance and capital flows discussed in the preceding sections, it would appear that its exposure to global financial turbulence could decrease over the course of the next decade. However, this conclusion is tempered to some degree by the examination of its projected net external asset position. As noted above, the CAM projects that Brazil's capital account will enter deficit territory in 2023, and this trend would imply a corresponding deterioration in its net foreign asset position in the intervening years[8]. This trend will, of course, compound Brazil's already large external asset problem noted in the introduction to this paper.

Since a sizeable proportion of capital inflows are projected to consist of portfolio investment, Brazil's external liabilities are expected to be dominated by portfolio liabilities over the medium term. Net other investment will also contribute significantly to external liabilities. Such projected trends are consistent with historical trends although absolute amounts have been smaller in the past. Recall that portfolio investments are relatively liquid investments that do not imply a controlling stake in a company, and thus they pose more of a danger in terms of "sudden stops" in inflows and rapid destabilizing capital outflows.

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[8] Recall that the net foreign asset position is the cumulated sum of capital account positions, allowing for any revaluations (i.e., changes in the price of existing assets). An example of the latter effect can be seen in the sharp amelioration in the Brazilian financial position in 2008 in Figure 29.
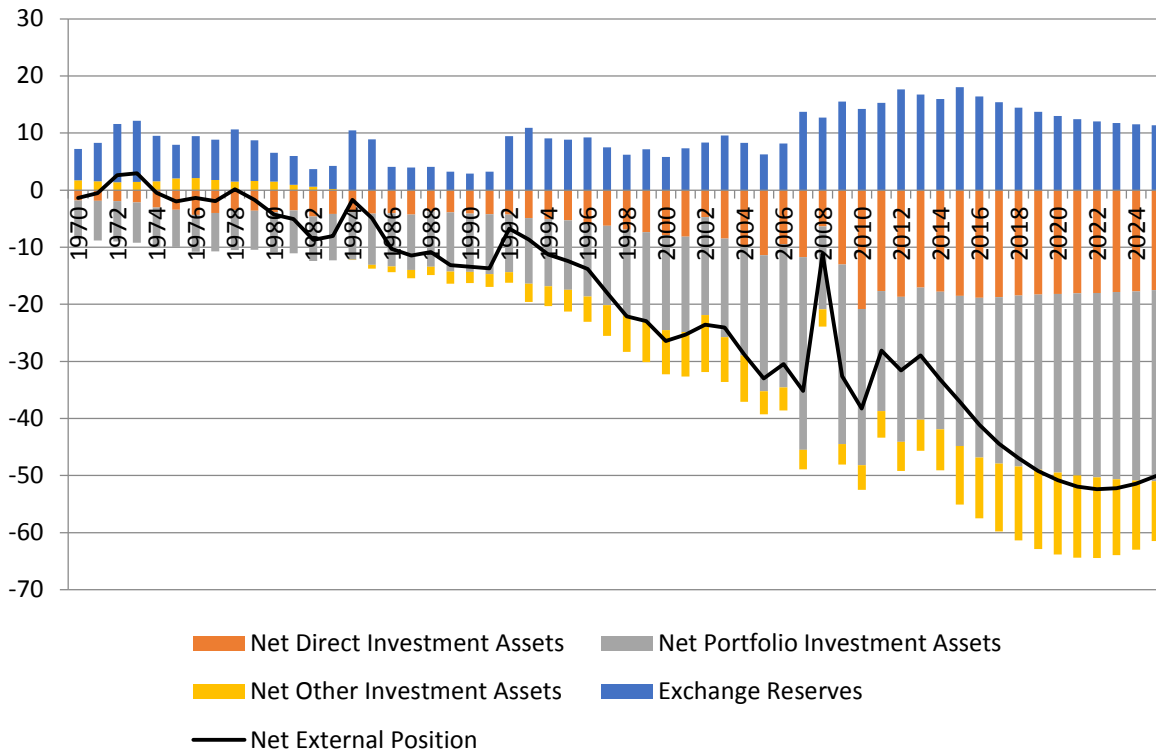
Figure 29: Brazil Net External Assets by Type

In total, Brazil's net external asset position is expected to reach about -52% of GDP by 2021, before beginning thereafter to improve marginally following the return of the capital account to deficit (and the current account to surplus) in 2023 (see Figure 29). By comparison, a number of other major emerging economies, such as China, Russia and most of the sizeable economies of East Asia, are expected to continue running positive net external financial positions, as noted in the introduction to this paper. Even India's net external asset position is expected to be closer to -15% of GDP over the projected horizon. Thus, while Brazil's growth prospects over the medium term look moderately positive, and it is expected to regain a trade surplus, such improvements are neither deep nor swift enough to reverse the secular deterioration in its net external position (though the latter begins to recover very marginally in the early 2020s).

The bulk of Brazil's external liabilities are expected to be in more liquid and more speculative portfolio and bank-related 'other investments', and thus the country will continue to be highly exposed to any further shocks from a reoccurrence of global financial instability. Moreover, the

fiscal deficit of the Brazilian government is expected to widen over the next 10 years, and its debt-to-GDP level is expected to rise progressively to over 76% by 2025—namely, to a pinnacle last seen in 2002. Therefore, if further financial instability does materialise (and such a trend looks likely), Brazil is not projected to be in a materially better position to deal with such a crisis than it was in 2008.

3.6 Concluding Remarks

Section 3 has examined the growth prospects and the projections of the internal and external financial balances of Brazil. The CAM's growth projections are moderately optimistic since it projects an escape from recession by 2017 and a return to growth rates over the medium term that are consistent with Brazil's post-1990 historical experience.

These trends will be driven in part by a return to current account surpluses by the early 2020s, a development that is propelled to some degree by increases in primary commodity exports and a resulting amelioration of the country's balance of trade. The correction in its current account deficit, however, is not expected to be rapid enough to reverse the deterioration in Brazil's net foreign asset position. Since Brazil's foreign liabilities remain highly liquid—made up mainly of cumulated portfolio and banking flows—it is not likely that Brazil's exposure to global financial turbulence will be reduced significantly over the coming decade.

As noted earlier in this paper, namely in Sections 1 and 2, global imbalances are not expected to decrease significantly over the medium term, and this trend will pose continuing risks to financial stability for many emerging economies. Brazil's projected net foreign asset position, as well as the highly liquid nature of most of its liabilities, signifies that it will remain highly exposed to external shocks, and possibly prone as well to domestic financial instability. Moreover, since the Brazilian government's fiscal position is also projected to deteriorate over the next ten years, the fiscal space that it could command to counter the effects of financial instability is likely to be severely circumscribed.

4. Indonesia

4.1 Introduction

Section 1 of this research paper considered projected global macroeconomic trends over the period 2016-2025 and section 2 delved further into projected global imbalances by examining projected global trade and capital flows and associated stock accumulations. As discussed above, global capital flow imbalances are widely blamed as an important contributing factor to the 2008 financial crisis. But our projections suggest that these imbalances are not likely to correct significantly over the medium term, and thus there is still a significant risk of further financial instability at the global level.

As has been widely documented, emerging economies have been hit particularly hard by the 2008 crisis and its aftermath. In mid-2015 many of them, including China, are already beginning to experience a new round of major financial problems. Within this context of persistent global imbalances and the heightened risk of further financial instability, Section 3 focused on the likely consequences for Brazil. This current Section 4 focuses on the likely outcomes for Indonesia, another important and populous emerging economy.

The primary manifestation of the 2008 global financial crisis, from the perspective of the Indonesian economy, was a large adverse shock to its export demand. Despite this shock, Indonesia was relatively unaffected by the global crisis, and still recorded significantly positive growth rates (of around 5%) through 2008 and 2009. Thus, its experience was more similar to China's than that of the rest of Southeast Asia.

This outcome in 2008-2009 can be compared to the effects of the 1997-8 Asia Crisis on Indonesia. During this earlier crisis, the main manifestations were substantial capital flight and ensuing depreciation of the Indonesian Rupia. As a result, there was a significant rise in the cost of the country's imports and the cost of its external debt. The Indonesian economy shrank

dramatically in 1998, i.e., by 13.7%. This contraction was led by sharp declines in construction activity, which plummeted by 39.8% (Tambunan 2010).

There are a number of potential reasons why Indonesia performed relatively better during the recent global financial crisis than it did during the 1997-8 Asia Crisis. One of the major reasons is that in the earlier crisis, capital flight and a currency crisis represented a much more severe disruption in Indonesia than the shock to its export demand in 2008-9. In addition, government finances were in significantly better shape in the later period than in 1997-8. This position enabled the government to initiate a rapid policy response. Moreover, the balance sheets of households and firms were relatively healthy, potentially as a result of having experienced the earlier trauma of the 1997-8 crisis (see Tambunan 2010).

However, these recent outcomes do not necessarily imply that Indonesia could weather further financial turbulence with the same degree of success as it did in 2008-9. Like Brazil, Indonesia is expected to experience deterioration in its net external financial position over the medium term, from an already problematic level, with a correction anticipated only by 2025. In the interim this trend could intensify Indonesia's financial fragility.

These projections are documented initially in Section 4.2, which begins by considering GDP growth and sectoral net lending. Thereafter, Section 4.3 examines trade balances, Section 4.4 analyses the capital account, and Section 4.5 projects the country's net external asset position. Similar to the projections for Brazil, those for Indonesia chart a correction in the country's current-account deficit over the medium term. But this correction is not expected to be rapid enough to reverse the deterioration in its net foreign asset position.

Moreover, since Indonesia's foreign liabilities will remain highly liquid—composed mostly of accumulated portfolio flows—the CAM's projections do not imply that Indonesia's exposure to global financial turbulence will be reduced significantly over the coming decade. In this respect, the policy recommendations that are implied for Indonesia are likely to bear a strong resemblance to those implied for Brazil.
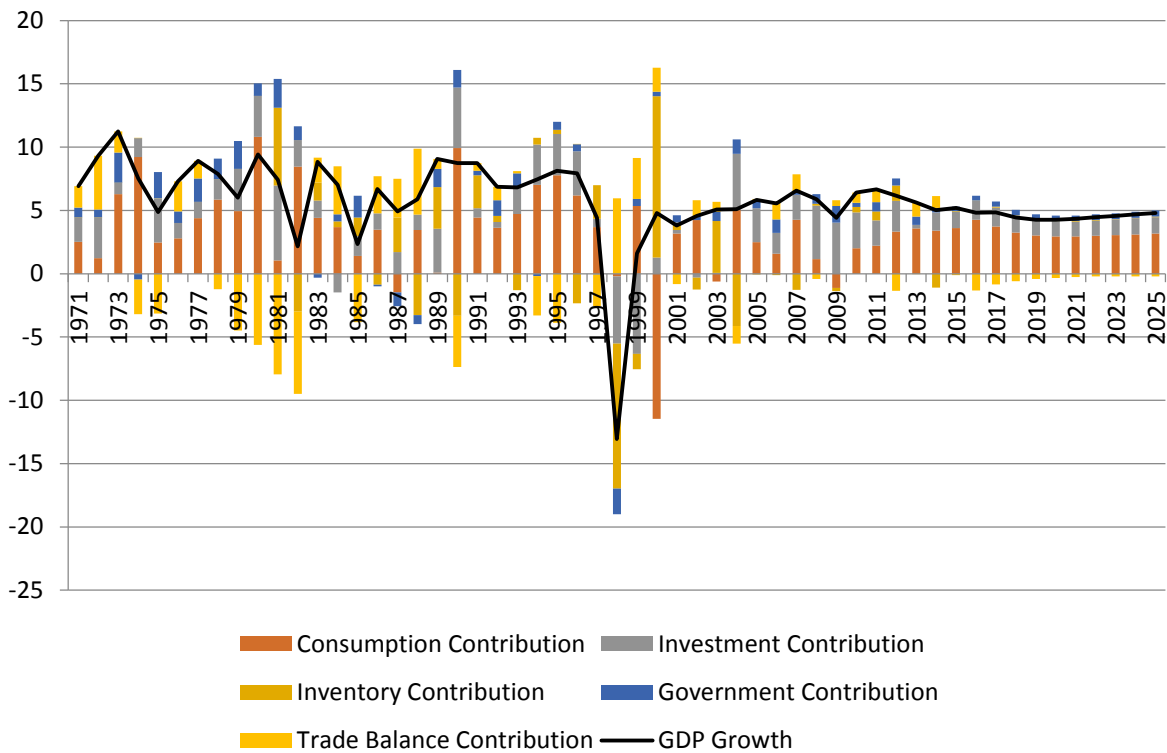
Figure 30: Indonesia GDP Growth (%) and Contributions

4.2 GDP Growth and Sectoral Net Lending

Figure 30 plots historical and projected GDP growth rates for Indonesia, alongside the contributions to this growth from consumption expenditure, fixed capital investment expenditure, inventory accumulation, government expenditure and net exports. These contributions are calculated, as in section 3.2, using the following decomposition:

$$\frac{\Delta Y_t}{Y_{t-1}} = \frac{C_{t-1}}{Y_{t-1}}\frac{\Delta\, C_t}{C_{t-1}} + \frac{I_{t-1}}{Y_{t-1}}\frac{\Delta I_t}{I_{t-1}} + \frac{IV_{t-1}}{Y_{t-1}}\frac{\Delta IV_t}{IV_{t-1}} + \frac{G_{t-1}}{Y_{t-1}}\frac{\Delta G_t}{G_{t-1}} + \frac{NX_{t-1}}{Y_{t-1}}\frac{\Delta NX_t}{NX_{t-1}}$$

Figure 30 shows that consumption expenditure has historically accounted for the bulk of Indonesian GDP growth, followed by investment as the next most important component. The country's trade balance and government expenditure have made relatively small net contributions. Over the projected period 2016-2025, consumption and investment are the clear drivers of economic growth, which would hover just below 5%. Also, over this period the country's trade deficit is projected to be eliminated as a drag on growth.

Since GDP growth is expected to remain essentially at its post-2000 average over the medium term (which occurred after the dramatic recession experienced by the country in 1998), one might expect to observe, as a result, a correction in Indonesia's capital account over the medium term, matched by a slow correction in its private-sector surplus. Such a trend would be more consistent with long-run averages in most countries, and would also be consistent with Indonesia's position after the 1997-8 crisis.

But Figure 31 shows divergent projected trends in Indonesia's sectoral lending. Net government lending does remain negative throughout the projected period, averaging around -2% of GDP. However, private sector net lending does eventually move into positive territory late in the projected period. But this positive trend is counter-balanced by a pronounced reduction (from about 4% of GDP to only 1%) in Indonesia's positive net lending to the rest of the world (i.e., its capital account).

4.3 Trade Balance Components

As noted above, the Indonesian current account situation is relatively similar to that of Brazil, although a large part of current account outflows are accounted for by factor payments rather than trade payments since Indonesia's net external position is relatively adverse. In fact, Indonesia's trade balance alone is relatively healthy, and is expected to correct to 0% of GDP by 2025 (see Figure 32).

Similar to the situation in Brazil, however, Indonesia's exports are dominated by primary commodities and fuels, while its imports are dominated by manufactures. With only a brief period of manufacturing export surplus in the years following the 1997-8 crisis, Indonesia is now still as vulnerable to adverse commodity price movements as many other emerging economies. The projections in Figure 32 for 2016-2025 suggest that this vulnerability will only become progressively worse, despite the eventual return to a zero trade balance by 2025.
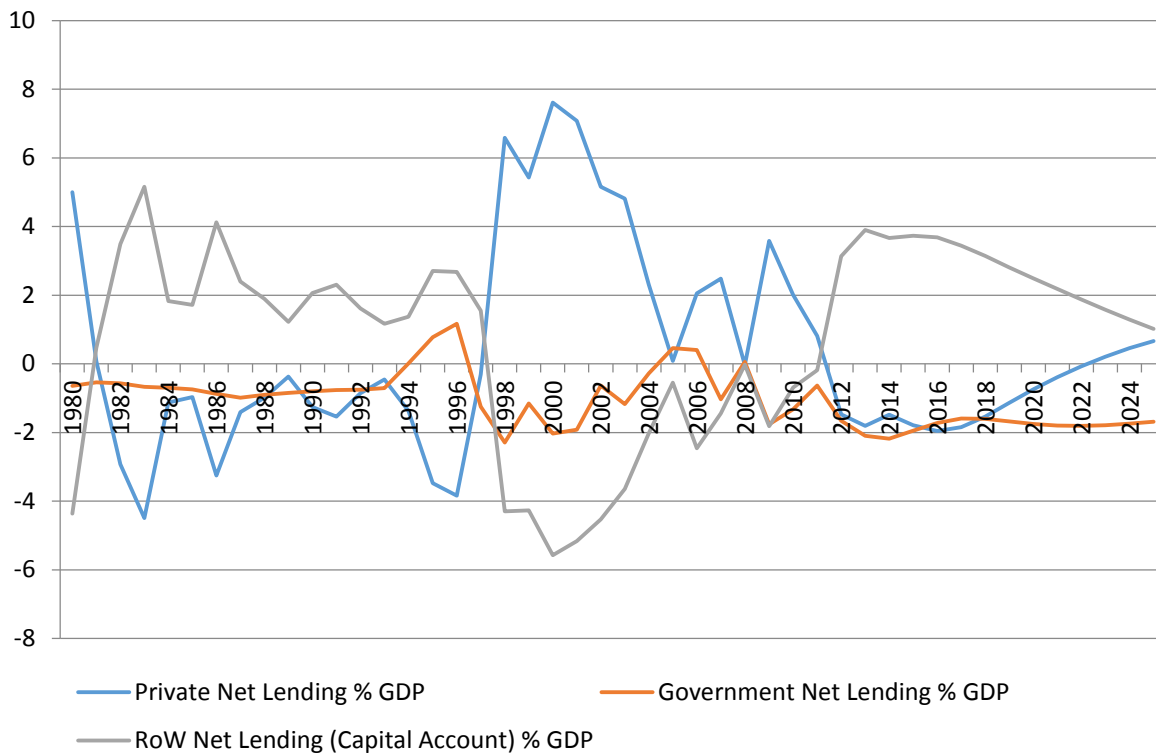
Figure 31: Indonesia Sectoral Net Lending

In addition, Indonesia's material exports are not particularly well diversified. Its five most important primary commodity exports, along with the percentage that each contributes to its total material exports, are liquefied hydrocarbons (12%), crude petroleum (11%), palm oil (11%), coal (9.2%) and natural rubber (5.3%) (Hausmann et al 2011, a citation that uses UN COMTRADE data from 2008). Thus, hydrocarbons make up over 30% of the country's material exports. Indonesia's position in this regard compares adversely to that of Brazil, which has relatively more diversified material trade. Indonesia is also a poor performer within the context of Southeast and East Asia on this metric, although it is potentially in a beneficial position given its proximity to the Chinese market.
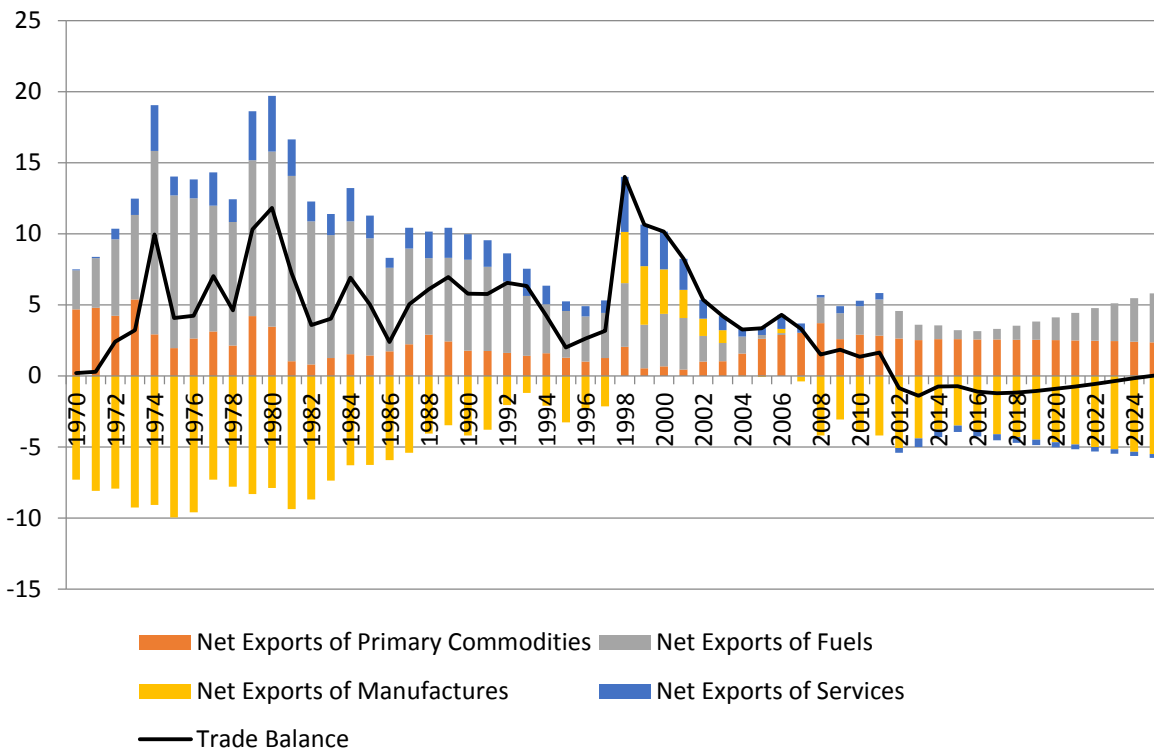
Figure 32: Indonesia Trade Balance and Components

4.4 Capital Account Components

Indonesia's capital account balance has been highly cyclical historically, with massive capital account deficits in the 1970s (as a result of the OPEC oil price shock), followed by high growth and capital account surpluses in the 1980s and mid-1990s, and then a swing to capital account deficits again following the 1997-8 Asia Crisis (Figure 33). This capital account deficit is thereafter slowly eliminated, reaching balance in 2011, followed by increasing surpluses until 2013.

The CAM projects that Indonesia's capital account surpluses would progressively decline but still remain positive by 2025. These surpluses would largely be driven by inflows of net 'other investment' (essentially bank lending) and, to a lesser degree, by foreign direct investment. Reserve acquisition would counter-balance this surplus to a modest degree. Since Indonesia's capital inflows would continue to be relatively liquid over the next decade, and its exports would continue to be dominated by primary commodities and fuels while its imports would be

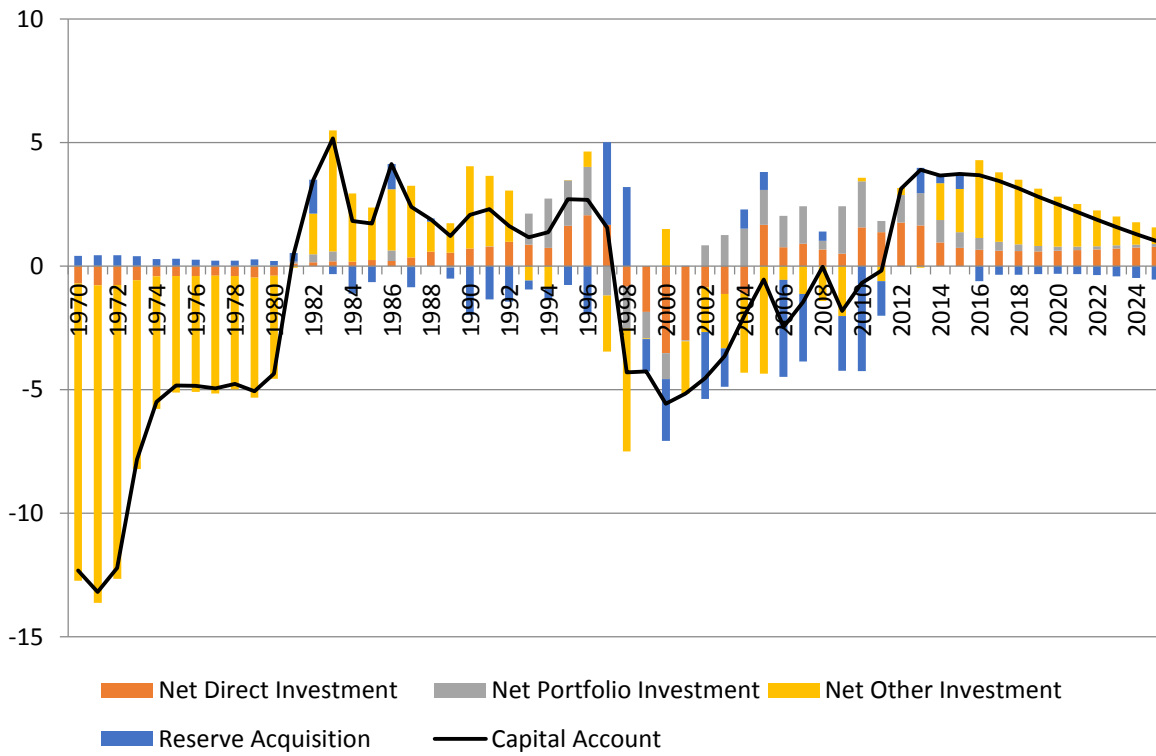dominated by manufactures, it is likely to confront financial risks similar to those expected for Brazil.

Figure 33: Indonesia Capital Account and Components

4.5 Net External Asset Components

On the basis of some of the positive aspects of the projections for Indonesia's GDP growth, its trade balance and its capital flows into and out of the economy, it might appear, superficially, that its exposure to global financial turbulence would decrease over the course of the next decade. But, as is the case for Brazil, such an assessment tends to be contradicted by its net external asset position through 2025 (see Figure 34).

Since the bulk of capital inflows into Indonesia are projected over the medium term to consist of net 'other investment', the predominant share of the country's resultant external liabilities would be of a similar nature. Net portfolio investment would also contribute to the country's external liabilities, as would Foreign Direct Investment.
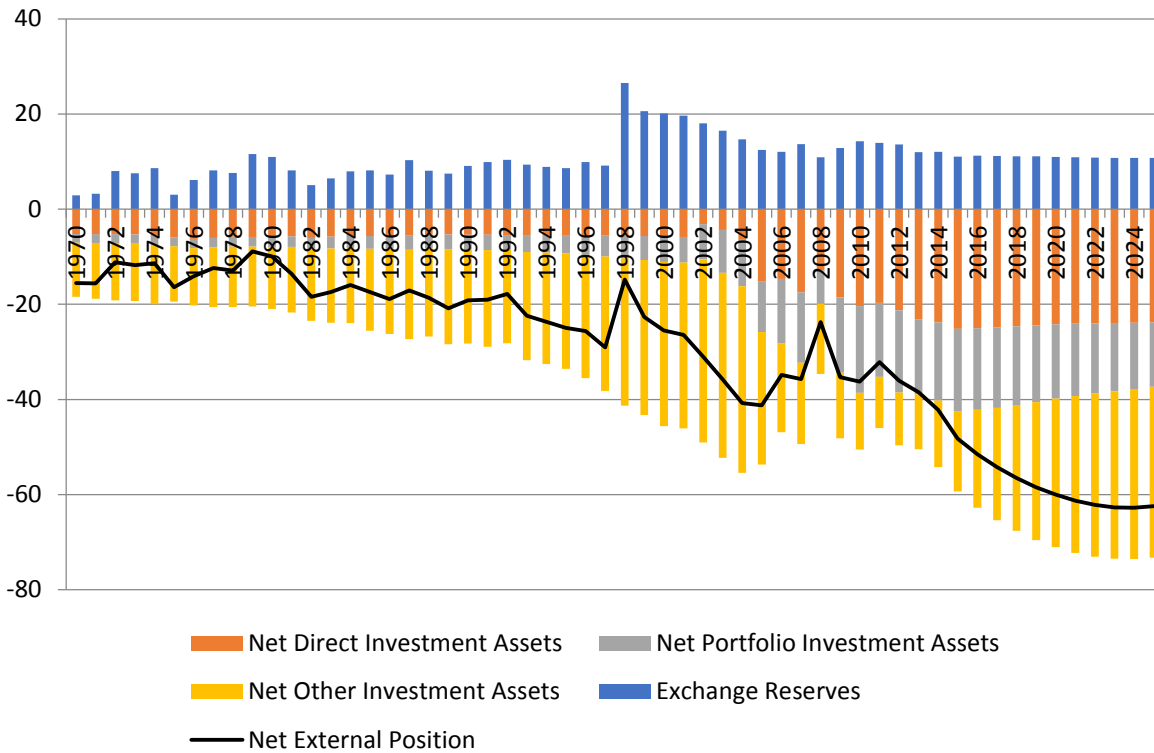
Figure 34: Indonesia Net External Assets by Type

Given these trends, Indonesia's net external asset position is expected to progressively decline, reaching about -64% of GDP by 2023-4, and then begin to stabilise as the capital account approaches balance. This projected trend is similar to that for Brazil. Since the bulk of these external liabilities are expected to be of the more liquid and speculative variety, Indonesia would continue to leave itself exposed to the aftershocks of any further global financial instability.

4.6 Initial Concluding Remarks

Section 4 has examined the growth prospects and the projections of the internal and external financial balances of Indonesia. The CAM's growth projections are moderately optimistic in flow terms, since Indonesia's GDP growth rates are projected to be relatively healthy over the medium term.

These trends will be driven by strong private consumption and investment growth, alongside a correction in the current account deficit through 2025. These trends are propelled by primary commodities and fuel exports, albeit they would be relatively undiversified. This slow correction, as with Brazil, is not expected to be rapid enough to reverse the deterioration in Indonesia's net foreign asset position. Since Indonesia's foreign liabilities are highly liquid— made up mainly of cumulated portfolio and banking flows, with only about 30% being composed of foreign direct investment—it is not likely that Indonesia's exposure to global financial turbulence will be reduced significantly over the coming decade.

As noted in Section 1 of this paper, both Brazil and Indonesia, as of 2015, have particularly adverse net external asset positions in comparison with other major emerging economies. Given this condition, along with the global context of low growth over the medium term, neither Brazil nor Indonesia's net external asset position is projected to correct before 2020. As global imbalances in net capital flows are not expected to decrease significantly over the medium term, this trend will pose continuing risks to financial stability for both countries.

5. Initial General Conclusions

This paper has considered medium term projections for global growth and financial balances, using the Cambridge Alphametrics model and database. Section 1 summarised the global context, focusing on the USA, Europe, mainland China, and the high-income region in East Asia outside mainland China (dominated by Japan and the Republic of Korea). Section 2 considered projections for external stock and flow balances for these major economic blocs. In particular, the composition of financial flows and stocks were broken down into their component parts in order to examine the likely pace of global financialisation over the next decade.

Given this global context, Sections 3 and 4 considered the implications for Brazil and Indonesia on the basis of their likely economic evolution over the next decade. These countries were chosen because of their similarity along one key dimension: their net external asset position. This is the stock counterpart to net capital flows, and is the difference between the value of foreign assets held by domestic residents and the value of domestic assets held by foreign

residents. Both Brazil and Indonesia, as of 2015, have particularly adverse net external asset positions compared to other major emerging economies.

Our conclusions are as follows. In short, we expect global growth to remain subdued over the medium term, and global imbalances in net capital flows and stocks to persist. On the basis of persistent imbalances in net flows and stocks, we expect imbalances in gross flows and stock positions to persist, and these trends would imply a risk of return to financial instability over the medium term.

Any renewed financial instability would pose severe risks to emerging economies, and particularly those economies with highly open external sectors. Brazil and Indonesia are two such countries, which have the added disadvantage of relatively adverse net external asset positions. Although our growth and capital flow projections for both countries are moderately optimistic over the medium term, their capital accounts are not expected to correct rapidly enough to reverse the decline in their net external asset positions. As a result, we expect Brazil and Indonesia to continue to be highly exposed over the next decade to external financial turbulence instability.

6. Addendum Based on 2016 Projections

After the completion and submission of this Working Paper in November 2015, a member of the FESSUD Strategic Advisory Committee provided in early 2016 a critical review of its projections, claiming that these projections were outdated. This criticism was based on the fact that in late 2015 economic trends in many of the major Emerging Economies, including Brazil and Indonesia, had deteriorated. However, the CAM projections for this Working Paper had essentially been completed in mid-2015 and had been aligned with the near-term forecasts of the International Monetary Fund in its April 2015 *World Economic Outlook*.

In view of this criticism we have now aligned our projections with the final data for 2015 and the IMF updated forecasts for 2016 in its April 2016 *World Economic Outlook* and have produced a new set of results for both Brazil and Indonesia, as well as for the global economy as a whole. These projections paint a somewhat bleaker picture of future economic trends through 2026 for both countries. In the following paragraphs we highlight some key outcomes

for both countries. The focus will be on GDP growth, growth in investment (as a ratio to GDP), the current account (as a ratio to GDP) and the capital account (as a ratio to GDP). We start with the highlights for Brazil.

A1. Brazil

In 2013 GDP growth in Brazil was 2.6%. But under the most current CAM projections, this growth rate would plummet dramatically to -3.8% during *both* 2015 and 2016 (Figure A1). These projections are starker than those drawn from our earlier projections, where growth would have dropped to only -1% in 2015, for example. After 2016, however, growth is still projected in our latest scenario to recover, reaching a peak of 3.3% in 2018, but then it slides back to 2.5% by 2026. This ultimate outcome would not be much different from that for our original projection.

Figure A1. GDP Growth of Brazil
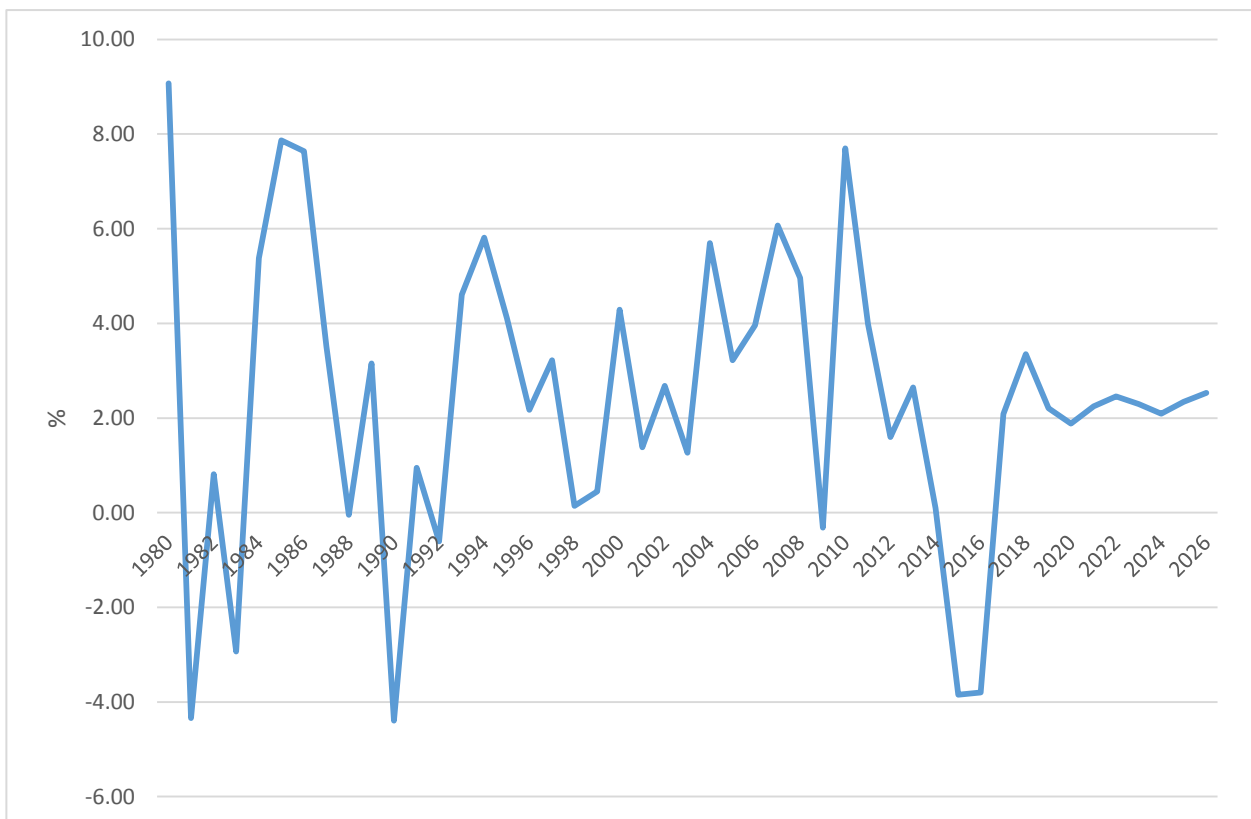
Projected growth for Brazil would not be driven by investment, however. In 2003 investment as a ratio to GDP was at a low point of 13.4% in Brazil. But by 2013 it had expanded to 17.8%. Thereafter, the CAM projections suggest, however, that this ratio would contract back down to 12.2% by 2017. Thereafter, the ratio would indeed rise but only modestly, reaching merely 13.3% of GDP in 2026. This level would roughly replicate, in fact, its low level in 2003, and thus tend to hold back economic growth.

The CAM projections suggest that Brazil's current account would become positive over the course of the projected period, 2017-2026 (Figure A2). This outcome is not much different from that in our earlier projection. In 2007 the country's current account as a ratio to GDP had been balanced. But by 2014 it had fallen into a large deficit of -5% of GDP. From this low point the CAM projects that Brazil's current account would improve due, in large part, to the depreciation of its exchange rate. By 2022 the current account is projected to recover back to a small positive balance of 0.2% of GDP. Then by 2026 this balance is expected to reach 2.1% of GDP.

Figure A2. Current Account of Brazil
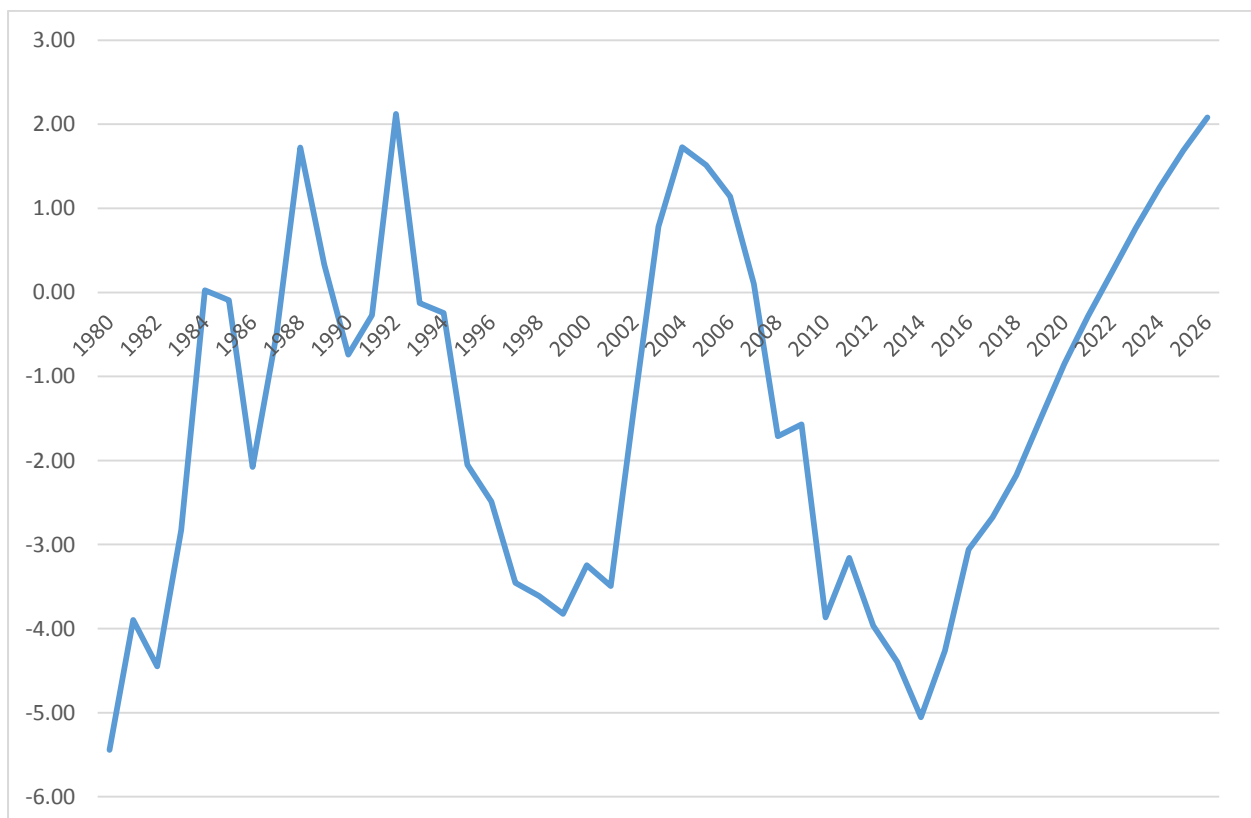
In this Addendum we confine ourselves to examining the trends in the components of the capital account. Be aware, however, that our Figures for the capital account in the Addendum express financial inflows as negative items and outflows as positive items (primarily for ease of understanding). Between 2007 and 2014 there was a substantial net inflow of capital into Brazil. In 2010 it had reached a peak, for example, of 3.7% of GDP. This trend was driven mainly by substantial inward increases in foreign direct investment and portfolio investment. During this same period Brazil's net foreign exchange reserves fell, unfortunately, from 2.7% of GDP to only about 0.3%. This left the country ill-prepared to counteract any rapid outflow of speculative capital.

Beginning in 2014 and based on our current CAM projections, foreign direct investment as a % of GDP is expected to decline sharply from a net inflow of 2.7% of GDP to basically zero by 2018. And it is projected to remain close to zero until 2023 (Figure A3). Thereafter it would recover, but only marginally, to a net inflow of 0.2% by 2026. Net portfolio investment is projected to continue flowing into Brazil over this same period but it would hover around only 1.2% of GDP through 2026.

Figure A3. Capital Account of Brazil

Capital Account, Baseline
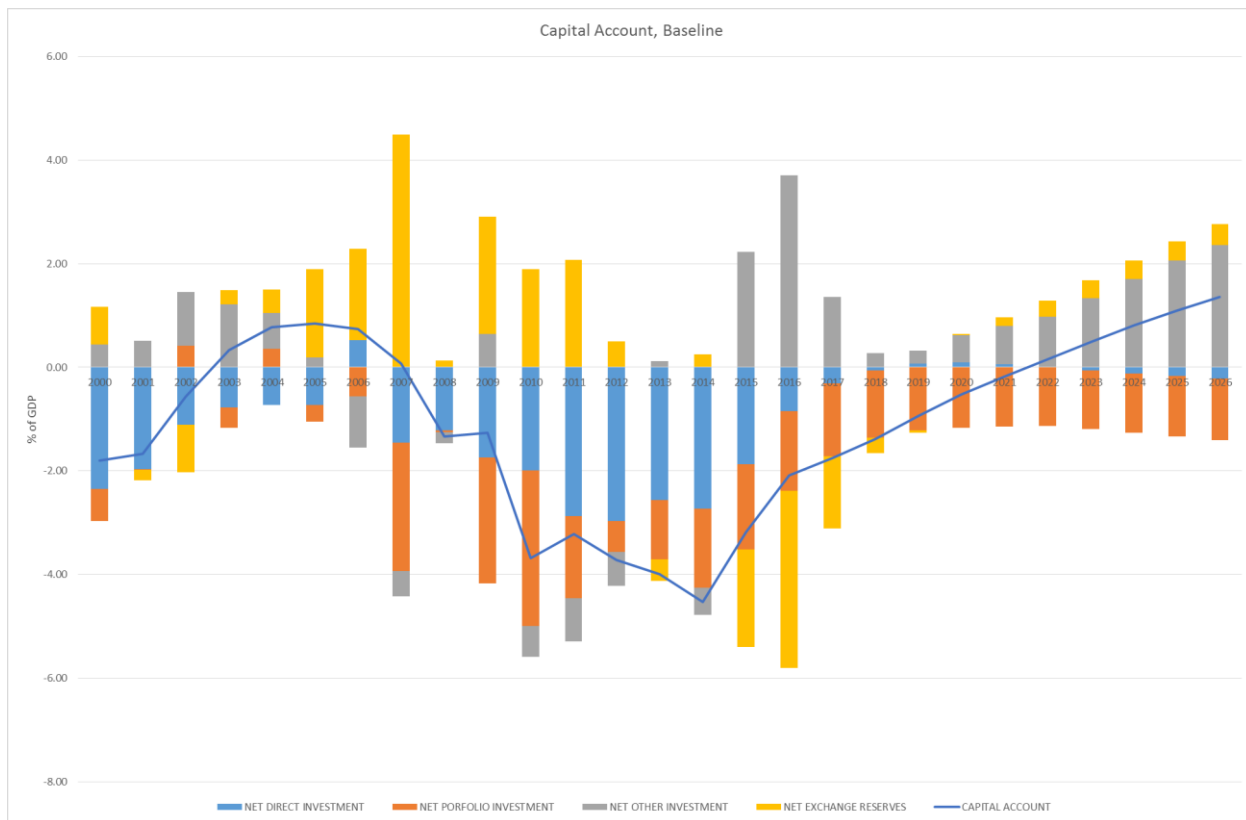
In contrast, net 'other investment' would continue to *flow out* of Brazil throughout the projected period, rising progressively and reaching about 2.4% of GDP by 2026. Over the same projected period, Brazil's net foreign exchange reserves would rise only incrementally, to about 0.4% of GDP. Thus, in total, net outflows of capital would amount to about 2.8% of GDP while net inflows of capital would be only about 1.4%. The disadvantages of this dynamic of financial flows are that Brazil is projected to 1) hold relatively small foreign exchange reserves, 2) suffer from an increasing outflow of 'other investment', 3) receive negligible inflows of foreign direct investment but 4) face continuing significant inflows of relatively volatile portfolio investment.

A2. Indonesia

The CAM projections for Indonesia suggest somewhat different economic outcomes than those for Brazil although Indonesia would be subject to similar global economic and financial forces.

After the economic disaster of the Asia Financial Crisis in the late 1990s, GDP growth in Indonesia hovered around 5% for a number of years. By 2010 its growth had reached a peak of

6.4%. Thereafter it began to slide, reaching only a projected 2% by 2017. However, it was then projected to recover to about 4% and stay there through 2026 (Figure A4). This would be a noticeably better performance than that of Brazil. But the projected growth for Indonesia in this current revised scenario would be worse than the almost 5% rate of growth projected by our earlier scenario.

Investment has also played a different role in Indonesia than in Brazil. Investment as a ratio to GDP boomed in Indonesia between 2003 and 2012, helping to drive its economic growth. In 2003 this ratio stood at 15.9%, for example, but by 2012 it had almost doubled, reaching the high level of almost 31%.

However, investment in Indonesia has tended to decline thereafter and it is projected by the CAM to continue falling progressively over 2017-2026. By 2026 the ratio of investment to GDP is expected to fall back to 24%. But this level for Indonesia would still be well above the projected level of about 13% for Brazil in 2026.

In 2000 Indonesia's current account as a ratio to GDP stood at an impressive level of 5%. But it progressively declined thereafter, reaching a low of 0.5% by 2005, for example. Thereafter the current account began to oscillate and, alarmingly, it plummeted to a sizeable deficit of -3.7% by 2013.

Figure A4. GDP Growth of Indonesia
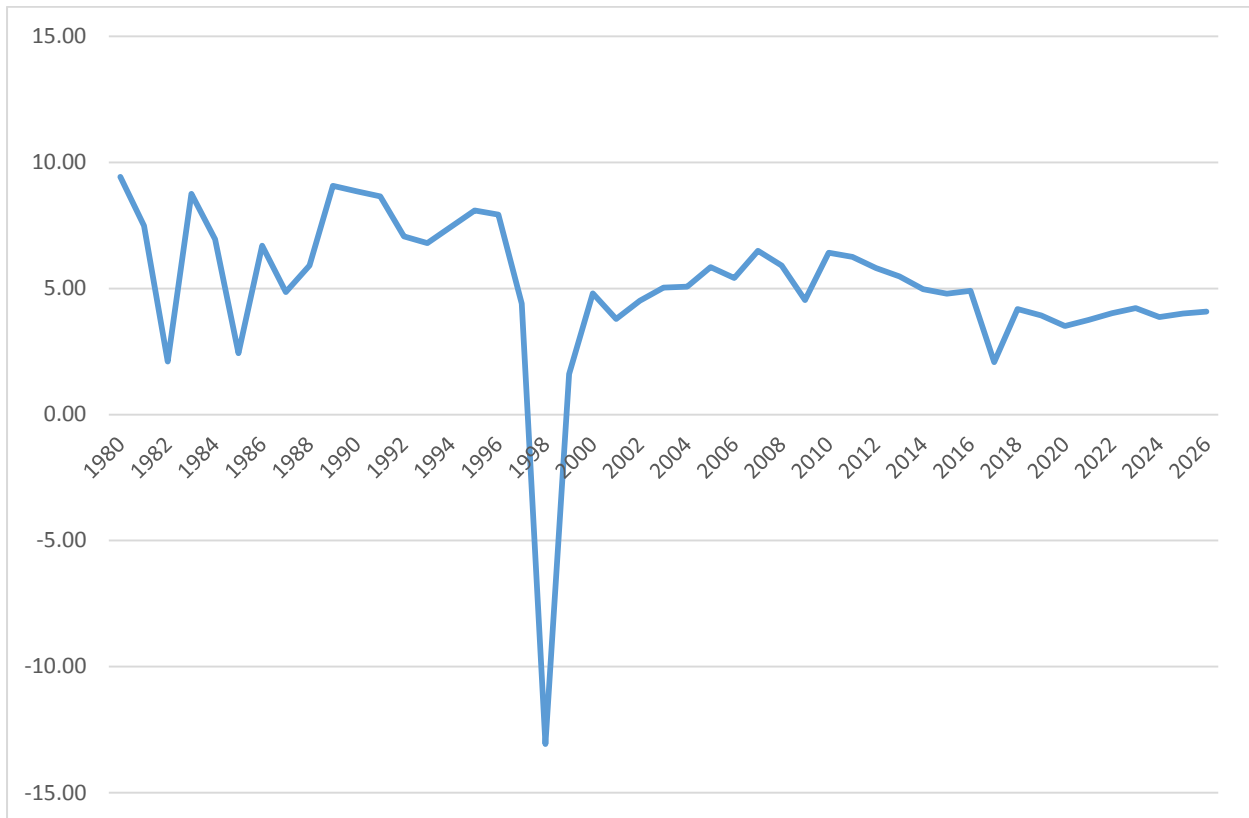
Shortly thereafter, the current account began to recover modestly and it narrowed to -2.4% of GDP by 2015. However, the CAM projections suggest that Indonesia's deficit would continue worsening throughout 2017-2026, widening to -4.2% of GDP by 2026 (Figure A5). This outcome contrasts with the somewhat more benign outcomes in our previous scenario (which were highlighted by a graph on Indonesia's trade balance). In our previous scenario Indonesia's trade balance was projected to slowly improve over the future period, but in our current scenario it is projected, by contrast, to progressively worsen.

This projection would result, in part, from a limited devaluation of its exchange rate along with the lack of any pronounced rebound in commodity prices. Such an outcome would represent a major constraint on Indonesia's development as well as tend to worsen its net financial position.

Figure A5. Current Account of Indonesia
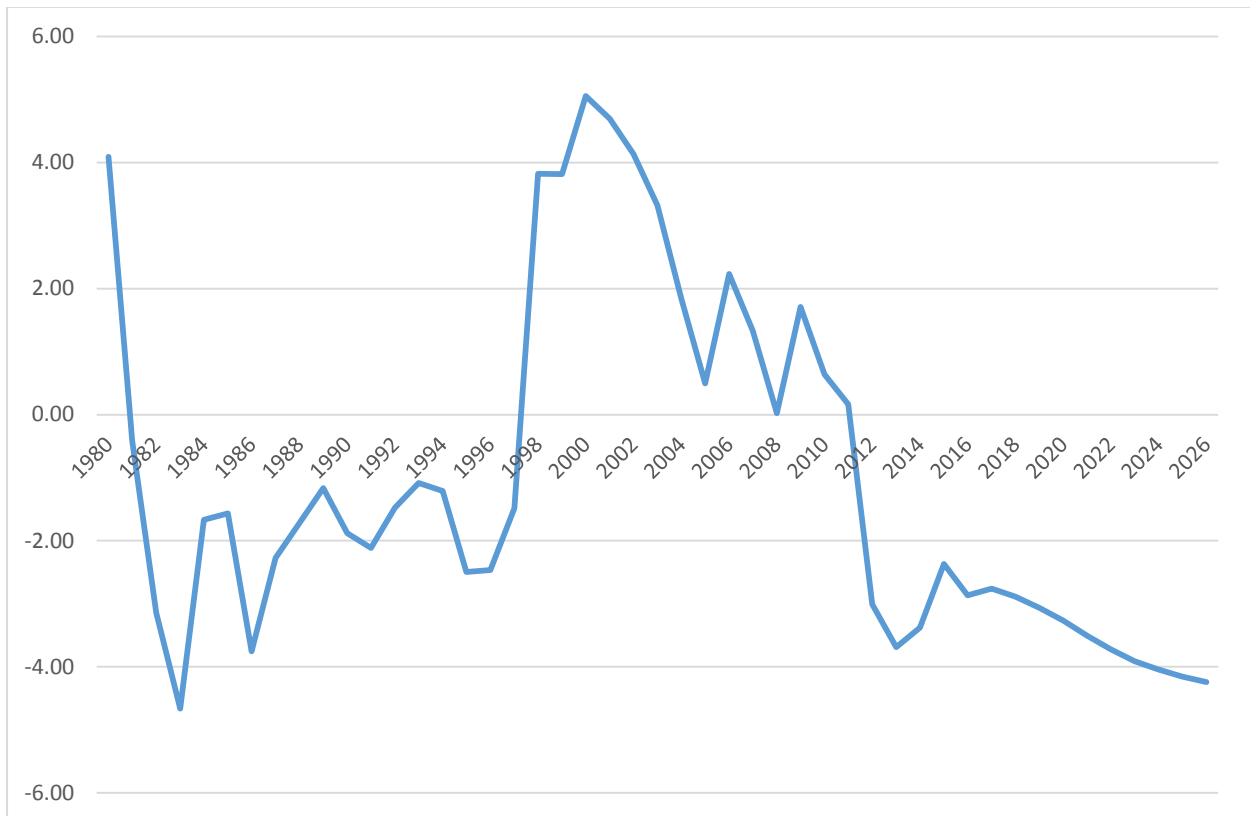
In the aftermath of the 2008-9 global financial crisis, Indonesia built up its holdings of foreign-exchange reserves. This build-up coincided with an increasing net inflow of both foreign direct investment and portfolio investment. The total financial inflows of foreign direct investment plus portfolio investment and other 'net investment' reached a peak of over 2.9% of GDP in 2014. At the same time, Indonesia's holdings of foreign exchange reserves reached a somewhat counter-balancing level of 0.9%.

However, the CAM projects that between 2015 and 2019 total net financial inflows into Indonesia would decline significantly, reaching a low of about 1.6% of GDP (Figure A6). However, thereafter and up to 2026, capital inflows would slowly increase, driven mainly by increases in net 'other investment', and the total would reach 1.9% of GDP.

But, over the same period, portfolio investment would decrease while FDI would remain quite small. There would also be modest outflows of investment in foreign exchange reserves,

amounting to no more than 0.15-0.17% of GDP. Still, as a result, in 2026 the net capital inflows into Indonesia would stand at about 2.3% of GDP, a fairly high historical level.

This current projection of Indonesia's capital account is somewhat different from that produced by our previous scenario. In that earlier scenario the main continuing capital inflow was net 'other investment' and this was followed, in importance, by foreign direct investment, though it is noteworthy that both of these tended to be on the decline over time.

Now only the two most unstable forms of capital inflows, namely, net 'other investment' and portfolio investment are projected to dominate inflows into Indonesia and, in fact, they are projected to increase, while Indonesia would command relatively small foreign exchange reserves that could be used to protect against oscillations in its exchange rate.

Figure A6. Capital Account of Indonesia
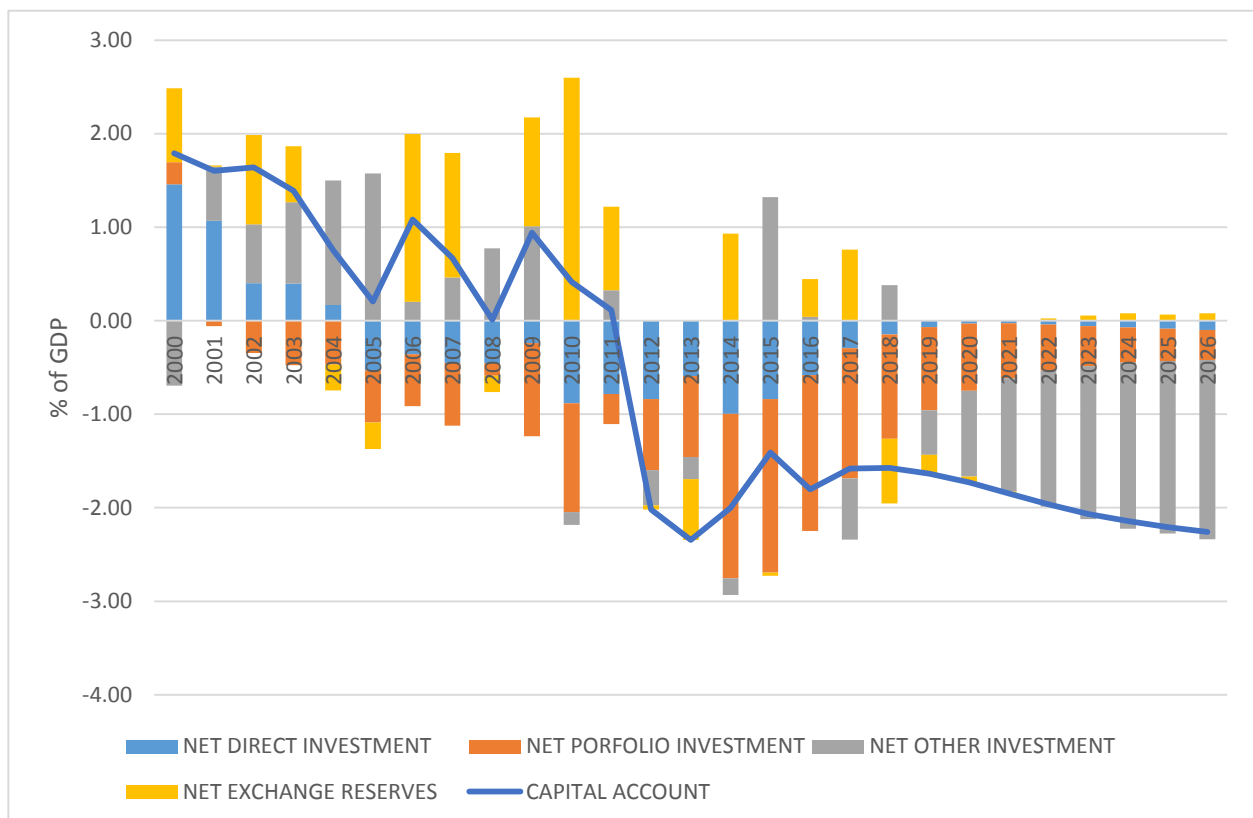
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Financialisation, Economy, Society and Sustainable Development (FESSUD) is a 10 million euro project largely funded by a near 8 million euro grant from the European Commission under Framework Programme 7 (contract number : 266800). The University of Leeds is the lead co-ordinator for the research project with a budget of over 2 million euros.

THE ABSTRACT OF THE PROJECT IS:

The research programme will integrate diverse levels, methods and disciplinary traditions with the aim of developing a comprehensive policy agenda for changing the role of the financial system to help achieve a future which is sustainable in environmental, social and economic terms. The programme involves an integrated and balanced consortium involving partners from 14 countries that has unsurpassed experience of deploying diverse perspectives both within economics and across disciplines inclusive of economics. The programme is distinctively pluralistic, and aims to forge alliances across the social sciences, so as to understand how finance can better serve economic, social and environmental needs. The central issues addressed are the ways in which the growth and performance of economies in the last 30 years have been dependent on the characteristics of the processes of financialisation; how has financialisation impacted on the achievement of specific economic, social, and environmental objectives?; the nature of the relationship between financialisation and the sustainability of the financial system, economic development and the environment?; the lessons to be drawn from the crisis about the nature and impacts of financialisation? ; what are the requisites of a financial system able to support a process of sustainable development, broadly conceived?'

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3	School of Oriental and African Studies	UK
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Published in Leeds, U.K. on behalf of the FESSUD project.