

The roles of development banks; how they can promote investment, in Europe and globally

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I Introduction

The financial sector should help support the real economy. To achieve this key positive role the financial sector needs to encourage and mobilize savings, intermediate these savings at low cost, ensure savings are channelled into efficient investment (including in innovation and structural change) as well as helping manage the risks for individuals and enterprises. In the context of industrial policy, it should help to fund new sectors and deepen existing ones and to support national and regional development strategies. Ideally, the financial sector could help societies acquire and accumulate learning, valuable for increasing productivity, especially in a dynamic sense (Stiglitz and Greenwald 2014).

Because the financial sector has such important effects throughout the economy it also needs to adhere to a principle of avoiding harming the rest of the economy. Therefore there should be as few and as small crises that stem from the financial sector, as these have huge costs, and are detrimental to economic growth, employment, and investment.

In recent decades, the private financial system has not performed any of these functions well. It has created risk, instead of managing it, leading to many major crises. It has been deeply pro-cyclical in that it tends to over-lend in boom times and ration credit during and long after-crises, limiting both working capital and, especially, long-term

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finance crucial for investment. In both tranquil and (even more so) turbulent times, it has not funded sufficiently the long-term investment in innovation and skills which businesses need to grow and create jobs; key sectors like infrastructure, renewable energy, and energy efficiency have also been insufficiently funded. In the context of industrial policy, it typically does not want to take too many risks, and--especially in recent times--tends to be unwilling to provide the long-term funding required to develop new sectors and technologies on a sufficient scale.

The problems of the private financial sector have increasingly drawn attention to the positive role that effective public development banks can play. In recent years, the valuable role that national, regional, and multilateral development banks can and often do play is receiving greater recognition in wider and ever-growing circles. The positive role these banks have played in providing counter-cyclical finance as private credit in, as well as flows to, developing countries collapsed during the North Atlantic crisis which started in 2007, is widely seen as valuable. Furthermore, the greater need for instruments to implement more long-term national or regional development strategies has been increasingly recognized. This coincides with growing recognition of the value of a modern “industrial policy” and the importance of an “entrepreneurial and development State,” that encourages and leads economic development, providing the vision and the dynamic push for private innovation and structural transformation (Chang 2002, Wade 2003, Mazzucato 2013). Stiglitz and Greenwald (2014) add the very important dimension that successful and sustained growth requires the creation of a learning society and a knowledge economy to increase productivity --and public development banks are an important institutional vehicle for supporting this. Indeed, development banks can help overcome market failures in both

financial and knowledge markets simultaneously.

The ability of development banks, at a multilateral, regional, and national level, to help implement and finance development strategies and visions (by funding both the public and private sector) has thus received greater support. It is also interesting that the role of development banks has not just been highlighted as important in developing and emerging economies, but also increasingly in developed ones. Thus the European Investment Bank (EIB)--the bank of the European Union (EU) member states--has played a prominent role in the provision of long-term lending during and after the Euro-zone debt crisis, as private lending fell. Since its creation in 1956, the EIB and the EU Structural Funds have provided significant funding for the inter-connection of national infrastructure on a massive scale, to support the creation of the Common Market and to reduce economic divergence between poorer and richer regions (see Griffith-Jones et al. 2006). More recently, it is engaged in helping fund the creation of a “smart” intra-European electricity grid, to facilitate transmission of renewable energy.

At a national European level, Germany’s public development bank, KfW, now the second largest commercial German bank, has played a very positive role in increasing lending counter-cyclically (for example to small and media enterprises (SMEs)) during the crisis, as well as providing significant funding to key sectors, such as investment in renewables and innovation. In Europe, these actions are perceived and highlighted as a valuable model for other countries. For example, France has just created a new public development bank and the United Kingdom is contemplating the creation of a similar institution. One of the few positive policy responses to the Euro-zone debt crises has been the creation of development banks and/or development finance mechanisms, especially for

SMEs, in countries like Ireland, Greece, and Portugal, often with strong support from KfW and the EIB.

The favorable experience of many development banks in emerging economies, such as BNDES in Brazil and CAF in the Andean region (and spreading increasingly in Latin America) as well as in China, South Korea, and India, are also very important and represent positive lessons for both emerging markets and developed economies. For example, BNDES has taken significant risks in financing important new sectors, like biotechnology and renewable energy. Furthermore, countries like Chile have used their development banks for promoting and funding private investment in sectors such as forestry, which generated major exports of paper and cellulose as well as wood. In all of these experiences, development banks have pioneered investment in new sectors and technologies, following national or regional priorities as defined by the government, often in consultation with the private sector.

Section II will elaborate on the analytical reasons why development banks need to play a bigger role in developing, emerging, and developed economies.

Section III gives a strong illustration of the positive role that development banks can play in helping economies recover after crises as well as grow more generally, by funding investment which will lead to long term transformation and innovation. Using the global non-equilibrium Cambridge Alphametrics Model (CAM), this chapter presents projections of economic developments that might take place in the period up to 2020 under alternative assumptions about global and European economic governance systems. Three main scenarios are presented: “Business as Usual,” “European Investment-led Recovery,” and “Global Investment Stimulus.”

The Business as Usual scenario envisages a world where government initiatives to stimulate growth and employment are constrained as the global investment rate stagnates. The projected macroeconomic outcome for Europe is a long period of low growth due to the harmful effects of austerity policies in the South Eurozone (Italy, Spain, Greece, and Portugal) and lack of significant and effective investment strategies.

Under the European Investment-led Recovery scenario the global economy is still struggling to recover due to the absence of a coordinated global investment stimulus. On the other hand, the macroeconomic outcome for Europe is more positive as it is assumed that Europe adopts an expansionary fiscal policy stance coupled with a significant boost in private investment to support growth and job creation. An important role in the latter would be played by the use of the European Investment Bank and national development banks, on an ambitious scale, to encourage private investment.

The third scenario, Global Investment Stimulus, demonstrates that a global economic action could lead to significant economic gains. In the spirit of an investment-led “global New Deal,” it is assumed that both developed and developing countries significantly boost private investment. This ultimately leads to faster global growth rates and significant employment gains. It is assumed that development banks would play an important role in funding such investment, both in Europe and globally. At the European level, growth and employment objectives are also supported by government spending and investment as well as by private investment. Overall, this scenario assumes that a European investment-led recovery combines with a global investment-led recovery.

In the two alternative investment scenarios here presented, it is assumed that investment rises substantially, on the basis that an expanded role for regional and national

development banks will provide the required financing. Simulations for this role will be provided in the European context and globally, especially for developing countries. One important advantage of this approach is that with fairly limited public resources a very large impact can be achieved due to leverage. Indeed, in this and other cases, public development banks have the advantage that they can leverage public resources as they fund their loans by bonds issued in the private capital markets, as well as co-financing with private banks and/or private investors. The contribution of public resources is mainly through an increase in paid-in capital.

European leaders, in a visionary move, already doubled paid-in capital of the EIB by Euro 10 billion in 2012 and this facilitated at least an additional EIB lending of Euro 60 billion. Furthermore, as the EIB requires 50% of co-financing with its loans the total additional lending since the doubling of paid-in capital was at least Euro 120 billion. Our proposal is that they increase paid-in capital by a further Euro 10 billion, which will facilitate at least additional similar amounts of lending, resulting in an important increase in private investment. Together with a less austere fiscal policy that does not allow public investment to fall, the simulations show that with the adoption of such policy strategy an additional 5 million much needed jobs can be created in the European Union.

II The analytical case for good development banks

A. Theoretical framework

Despite development banks' size and importance to economies, surprisingly little academic research has been conducted on the role of and the rationale for these banks. The discussion needs to be placed in the context of the broader debate on the desirable nature and structure of the financial sector.

In the three decades after World War II, it could be argued that the financial sector functioned quite well both in developing and developed countries. National and multilateral development banks were created and performed valuable roles. Private domestic financial sectors were relatively small and fairly tightly regulated.

However, there were policy concerns that “financially repressed” systems, as they were then called, were inefficient. From a theoretical perspective, the idea that, “financial markets were efficient,” encouraged financial liberalization, with minimal or no regulation (Gurley and Shaw 1955, McKinnon 1973). This process was followed by frequent and costly crises. Diaz-Alejandro (1985) perceptively synthesized this early on as: “Good-bye financial repression, hello financial crisis.” Within the efficient financial market school, the existence of public financial institutions, such as development banks, was--almost by definition--seen as negative. As a consequence, development banks were criticized--fairly and unfairly--and their role was reduced sharply in many countries. One of the largest paradoxes was that, during this phase of dominance of the more “neo-liberal approach” the World Bank, itself a very important public development bank, played a significant role via its conditionality in encouraging developing countries to wind down their national development banks.

An alternative theoretical approach emphasized credit rationing, which describes a situation in which, even when agents are willing to pay a higher interest rate to get the funds to finance their investments, banks may refuse financing. In this perspective, the approach of credit rationing justifies the existence of development banks, which would supply the necessary credit to investment, unavailable in the private financing system.

Another approach is associated with the theory of market failures in financial

markets (Stiglitz and Weiss 1981, Stiglitz 1990). Credit rationing occurs due to a malfunction of the financial markets, caused by imperfect information or information asymmetry, which prevents financial markets to function efficiently. If borrowers have more information on the expected return of their projects than the lenders, there is a greater demand for credit than supply, but the adjustment would not be done by increasing interest rates. Furthermore, adverse selection and moral hazard accentuate these market imperfections.

Stiglitz (1994) argues that market failures in financial markets are likely to be endemic as those markets are particularly information intensive, thus making information imperfections and asymmetries as well as incomplete contracts more important and disruptive than in other economic sectors. Therefore, in important parts of financial markets, market failures tend to be greater than government failures, as Stiglitz (1994) insightfully argues. In such cases government interventions are more desirable than in other sectors if their benefits outweigh their costs. This provides a first robust case for a “visible hand of government,” both through effective public development banks and through robust regulation of private financial markets.

Stiglitz and Greenwald (2014) further argue that knowledge and information markets also have huge market imperfections, and that knowledge and information are basically public goods. As a consequence, governments have a clear role in promoting a learning society in order to help achieve increases in productivity. One of the institutional vehicles for helping achieve such a learning society, perhaps more in developing and emerging economies, are good development banks. Besides providing long-term finance, they can provide specific incentives, through their lending, for innovation. Furthermore,

because of their long-term perspective, they can help fund, accumulate, and coordinate expertise in specific areas of innovation and in “learning how to learn.” Naturally in this task they need to, and do, collaborate with other actors, both public and private. This role in accumulating and promoting knowledge and learning, which has not been sufficiently explored in the literature, cannot be well accomplished by most private financial institutions, as they focus mainly or exclusively on short-term profits, and tend not to be interested either in past experience or in future externalities. Development banks therefore need to help fill the gap.

From a complementary theoretical perspective several commentators (e.g. Ferraz et al. forthcoming, Kregel 1988, Wray 2009) argue there is a preference for liquidity amongst investors, as well as banks, which is responsible for the limitations of the supply of credit in the economy. There may be lack of credit for investment even when there are well-developed national and international financial systems. Therefore, as pointed out above, the importance of development banks goes beyond the question of "market failure," though it builds on it. Given the uncertainty about the future, depending on the characteristics of the new sectors/projects that require resources, banks often offer no or insufficient credit (especially long-term credit) even if the financial system is fully developed.

Therefore, the existence of development banks is justified by the existence of sectors and investment projects that require funding for the future development of the economy, but have high uncertainty as to their future success (Mazzucato 2013). Because of that, they may not be funded by the private financial system which prefers sectors or investment projects whose expected returns are less uncertain. These are often highly complex and expensive sectors/projects, requiring sophisticated expertise in their

evaluation that takes account of positive impacts across the economy (positive externalities, for example in terms of helping mitigate climate change via lower carbon emissions, as renewable energy does) and/or those in which social returns exceed private returns.

A key market imperfection in the operation of financial markets, basically across the board, is the tendency to “boom-bust,” with a feast of finance followed by famine, both in domestic and in international finance. Building on the theoretical tradition of Keynes (1936) and Minsky (1977), Kindleberger (1978) developed a historical analysis, which considers financial crises as a response to previous excesses. Such excesses seem clearly far greater in financial and banking markets that are more liberalized and not properly regulated. The pro-cyclical nature of private finance implies the need for public development banks to provide both short-term, and especially long-term, counter-cyclical finance, as well as the need for counter-cyclical regulation of banking and financial markets (Griffith-Jones and Ocampo 2014). Griffith-Jones et al. (2012) and Ocampo et al. (2012) provide empirical evidence for the counter-cyclical response of regional and multilateral development banks, whilst Brei and Schlarek (2013) and Luna-Martinez and Vicente (2012) provide important empirical evidence for the counter-cyclical role national development banks play.

B. Desirable functions and characteristics of development banks

The above theoretical context, as well as empirical evidence, help define the role that development banks do and need to play.

There are four valuable functions that seem crucial for national, regional and multilateral development banks to play: a) providing counter-cyclical finance, especially for supporting investment; b) supporting, through funding, a dynamic vision and strategy of

growth, structural transformation, and increased learning; c) mobilizing broader financial resources, for example by leverage and targeted subsidies; d) financing public goods (Culpeper, Griffith-Jones, and Titelman (forthcoming)).

As regards b), the emphasis is on the especially valuable role that development banks can play to fund investment in the beginning of new sectors or the deepening of existing sectors, where private investment on its own would not invest, as it is too uncertainty averse. In those cases, development banks can provide the vision--and part of the resources, either through loans or equity--to do those things that at present are not done at all (Keynes 1926, Mazzucato 2013). This requires development banks to have the expertise and the strategic vision to fund new sectors and technologies.

The fact that development banks can provide long-term loans, have a long-term development perspective, and require lower returns, further facilitates this. Development banks can also accumulate their own expertise, which they can transmit to investors and borrowers, as well as promote its development. Thus, development banks can combine, helping to fill gaps in knowledge and in resources. This is the most challenging, but also probably the most valuable role for development banks. For example, the EIB is engaged in helping fund the creation of a “smart” intra-European electricity grid, to facilitate transmission of renewable energy.

However, development banks are also needed to fund sectors or activities where important externalities exist, which imply that social returns are higher than market returns; this is typically the case with environmental externalities. It is interesting that public development banks, and notably the EIB, evaluate projects both on a purely commercial basis, and also in an environmental way, incorporating a “shadow” (higher than market)

price for carbon. This may require the provision of targeted and time-limited subsidies for certain projects to go ahead; in the case of the EU, this can be and is provided from European Commission resources. Finally, the counter-cyclical role is crucial to help sustain investment, innovation, job creation, and growth in the long periods when private lending falls or, worse, dries up. Uncertainty of funding, accompanied by lower demand, can be a major discouragement for private investment, unnecessarily prolonging stagnation or low growth. Development banks can step in to help with both.

More broadly, there is a different case in favor of development banks, in the sense of the benefits of diversification. Having a more diversified financial structure than one just focused mainly in private (often large) banks may have several advantages. Firstly, it may encourage competition between different types of financial institutions, which could lead to them being more efficient, for example in the spreads they charge. Secondly, a more diversified financial system (especially if it does not have inter-connected risks) could lead to less systemic risk and therefore contribute to financial stability. Thirdly, if different varieties of financial institutions have different strengths,³ having a more diverse financial system --vis-à-vis one where the structure of the financial sector is determined spontaneously or is dominated by one type of financial institution-- could enhance those financial sector functions needed to help achieve inclusive and dynamic growth.

Indeed, given that financial sectors (particularly liberalized, very lightly regulated ones) can be problematic for growth, the need to pursue pragmatic policies in financial sector development and not be driven by pure free market ideologies or conditioned too

³ To include some stylized facts, development banks are good at counter-cyclical lending and at providing long-term finance for private investment in infrastructure, as well as supporting investment and innovation in new sectors; private banks are good at providing international trade credit as well as financing the needs of large companies.

much by the interest of agents in the financial sector, is especially important. It is key not to adopt an “either/or” attitude, but look at the best ways of building synergies amongst institutions of different type (e.g. private and public) as well as encourage best practice within them. For the more dynamic sectors, the initial catalytic role of development banks may be crucial. Public development banks co-finance, and increasingly lend, via private banks, especially in the case of small and medium enterprises. Furthermore, much of their lending is done to private firms. The ability to combine private and public creatively, ideally working constructively together, is an essential feature of a financial system if it is to serve the needs of inclusive and environmentally sustainable growth. In this sense, though by no means perfect, the way the German financial sector has developed and operated, for example to successfully help fund renewable energy via public and private banks (as well as cooperative banks) and private investors acting together, provides a very good example.

It is indeed valuable for public and private sector banks to collaborate and build on mutual positive synergies. However, it is also important that the vices of one sector (e.g. the excessive financial risk taking of private investment banks and hedge funds, or the use of excessively sophisticated and opaque instruments) are not transmitted to the public development banks as these can generate future risks. Whilst public development banks can and should assume “economic risks” related to the uncertainty of going into new sectors, new technologies, new markets, etc., they should not assume purely financial risks by copying or buying from the private financial sector instruments that may offer short term high financial returns but imply potentially high risks. A preference for simple and transparent instruments, like “plain vanilla loans” or simple equity contributions seems

justified for development banks, especially in the light of the North Atlantic financial crisis. Equity or equity-like instruments have the advantage that they can allow development banks to compensate the higher risks they assume, e.g. in helping develop and fund new sectors and/or technologies by receiving a part of the “upside” if profits are high; such capturing of part of the “upside” of profitable projects can generate profits, that the development bank can plough into new future activities, via for example increasing its capital.

Another important consideration is the scale of development bank lending, in proportion to total lending. There seems to be an important case for a significant scale so they can fulfil their functions well, especially in terms of funding key investments to make a meaningful impact on innovation and structural change and for playing a strong counter-cyclical role when this is necessary, as was clearly the case in the period during and after the North Atlantic crisis, and for financing public goods, like investment in renewable energy. It is interesting to note that KfW is the second largest commercial bank in Germany and represents 12.7% of total bank credit in the German economy. If the role of regional and other development banks is added, the share of public banks in Germany represents about a quarter of total bank credit. This is particularly relevant because the German economy is the most dynamic in Europe, with a large ability to innovate and compete internationally, including in advanced industrial goods. The role that KfW has played in helping such innovation, growth, and employment generation is a very understudied but important subject. In the case of Brazil, BNDES represents an even higher proportion of total credit (21 percent) and a particularly high proportion of long-term finance, making it a major instrument for innovation and industrial policy (see Ferraz et al, forthcoming).

A final desirable feature of effective development banks is that they should have a close dialogue with the private sector in order to develop a joint vision and expertise for funding good projects in strategic sectors. However, development banks should not be captured by narrow private or political interests, because it would misuse resources and distract the development bank from its important roles. Good governance of development banks is therefore essential.

III. From business as usual to an investment-led global New Deal

This section examines three possible alternatives for the global economy and Europe for the period to 2020. The first is a Business as Usual scenario in which austerity policies in Europe are maintained in an attempt to reduce fiscal deficits to 3 percent of GDP and debt-to-GDP ratios to 60 percent. In other words, European governments will continue to cut their expenditures to reduce government debt and contain increases in government revenue. This is particularly the case for the South Eurozone where government spending is assumed to reduce from 23 percent of GDP in 2014 to 21 percent by 2020 and in the United Kingdom where government spending decreases from 23 percent in 2014 to 22 percent in 2020.

This scenario gives particular attention to the new Euro 315 billion Investment Plan for Europe, widely known as the Juncker Plan (European Commission 2014). As a result, investment as percentage of GDP in European Union is increased from 15 percent of GDP in 2015 to 17 percent of GDP by 2020. Thus, in this scenario, it is assumed that that within the next five years, 85 percent of the resources allocated under the Investment Plan for Europe will feed into higher investment rates across the European Union. If anything, this may be a somewhat optimistic assumption, given that there are concerns that the resources

devoted to this plan may not be sufficient to catalyze such large investment.

At the global level, the Business as Usual scenario envisages a world in which private investment remains subdued in the face of depressed expectations of profitability, continued austerity in some highly-indebted countries, and the relatively low growth environment. As such, the global investment rate as percentage of world GDP would only marginally increase from 21.4 percent of world GDP in 2014 to 22 percent of world GDP in 2020.

Contrasted to the Business as Usual scenario are two alternative sets of projections in which significant increases in public and private investment form the basis of sustainable economic recovery. In the first alternative scenario, European Investment-led Recovery, private investment in the European Union significantly increases from 15 percent of GDP in 2014 to 20 percent of GDP in 2020. In nominal terms, this would imply additional resources for investment, compared to the Business as Usual scenario, of approximately Euro 530 billion by 2020 for the European Union. This sizable increase in investment is based on the recent proposal of the Polish Finance Minister Mateusz Szczurek calling for an EU-wide investment program of Euro 700 billion (equivalent to 5.5 percent of EU GDP) (Szczurek 2014a).

With respect to the financing of this investment, EU member states and European institutions have a role to play in providing capital to lending institutions so that credit expansion can support the growth of private investment. There are a number of current proposals in this direction. For instance, in a recent study Cozzi and Griffith-Jones (2014), highlight two promising paths to use limited public resources to achieve important multiplier effects. The first is to increase paid-in capital of the European Investment bank

(EIB). They suggest a further increase of 10 billion Euros of the paid-in capital of the EIB, building on the successful experience of Euro10 billion increase of paid-in capital undertaken in 2012. The capital increase in 2012 facilitated at least an additional EIB lending of Euro 80 billion, and a total additional lending of Euro 160 billion..

The second route to achieve leverage is with the EU budget. Large projects can be co-financed by the EIB alongside with private capital from pension funds and insurance companies that currently do not fund large investment projects due to high risk. Before the crisis, these risks were absorbed by mono-line insurers such as ING. However, after the crisis, it has become more difficult for mono-line insurers to take on this task. To this end, we propose that a very small amount (as proportion of the EU budget), equal to Euro 5 billion a year, could be allocated as a risk buffer. Such resources would come from the existing EU budget, and could imply some small restructuring of the EU budget. These 5 billion Euros a year would allow the EIB to lend an additional Euro 10 billion annually, leading to investment up to Euro 20 billion annually (Cozzi and Griffith-Jones 2014).

Other viable proposals for financing investment include the institution of a European Fund for Investment (EFI) for Euro 700 billion. This fund would be financed by injections of paid-in capital and guarantees by all EU member states, for a total of Euro 105 billion, which would then be leveraged by borrowing in the financial markets (Szczyrek 2014b). This could be a viable parallel initiative, but it is crucial that EU member states' contributions would not be taken into account when defining the fiscal adjustment targets under the Stability and Growth Pact. National development banks could play an important role in co-funding private investment in those countries where they exist. An interesting model is the new public investment vehicle recently created for financing SMEs in Ireland,

which has credit lines from the EIB and German KfW, whilst being capitalized by the Irish public pension fund.

The second important aspect of the European Investment-led Recovery scenario is the implementation of a more expansionary (or in some cases, less contractionary) fiscal policy stance at the EU level. In this respect, under this scenario European governments either maintain or increase expenditures as a share of GDP in an attempt to create the economic momentum required to substantially increase investment, employment, and economic growth. The more significant increase in government expenditure will occur in the South Eurozone, where it is assumed that government expenditure as percentage of GDP increases from 22.8 percent of GDP in 2014 to 23.8 percent by 2020. The North Eurozone would experience a more marginal increase in government expenditure, from 23 percent of GDP in 2014 to 23.5 percent of GDP in 2020, whereas in the United Kingdom government expenditure will be maintained at 2014 levels (23 percent of GDP) through the period.

Increases in government expenditure in this scenario will be mainly covered by the higher tax revenues, resulting from additional economic output generated under the European investment-led strategy. In addition, in order to offset budget deficit pressure that an increase in expenditure could generate, it is assumed that government revenue increases as a result of increases in direct taxation, particularly for the high earners, and as a result of stronger actions to curb tax fraud and tax evasion. In the South Eurozone government, income increases from 16.3 percent of GDP in 2014 to 19 percent in 2020, in the North Eurozone from 12 percent of GDP in 2014 to 22 percent and in the United Kingdom from 17 percent of GDP to 19 percent of GDP over the same period.

The final, and most promising scenario for global recovery, is a Global Investment Stimulus scenario. Here, the objective is to evolve the European Investment-led Recovery scenario in a global context where promoting investment and sustainable economic growth is done at a global scale. In particular, this scenario assumes –that both developed and developing countries will put forward initiatives to stimulate private investment. In this context, national and regional development banks can play a fundamental role in developing countries in closing market gaps, supporting the funding of infrastructure projects and technological development, and providing counter-cyclical financing (Griffith-Jones and Tyson 2013). As discussed above, countries like Brazil, India, China, and others have had successful development banks, which play a major role in funding and catalyzing private and public investment; it may be desirable to create or expand existing development banks in other emerging and developing economies, as well as in developed economies. This national development bank activity could be complemented by increased loans and equity by existing regional and multilateral development banks; furthermore, the creation of a New Development Bank, under the leadership of the BRICS (see Griffith-Jones 2014, for example) as well as the new Asian Infrastructure Fund can give further important support to increased investment in developing and emerging economies.

In the Global Investment Stimulus scenario global private investment as percentage of world GDP increases from 21.4 percent of world GDP to 23.8 percent of world GDP in 2020. This represents a significant, but realistic, increase compared to the Business as Usual scenario, where global private investment increases less, and reaches 22 percent of world GDP by 2020.

Given the current structure of the CAM model (see appendix 1 for more information

about the model), which divides the world into regions (e.g. low income Africa, South America, European Union, South and North Eurozone) and large countries (e.g. United States, Brazil, China, India), increases in private investment are programmed either at country or regional level. For instance, for the region of low income Africa private investment in the Global Investment Stimulus scenario increases from 16.4 percent in 2014 to 17.8 percent in 2020. This projection is in sharp contrast with the Business as Usual scenario, where no specific assumption on private investment is made and historical trends are projected to 2020. Under the Business as Usual scenario this region would see private investment rate sharply declining to 14.4 percent by 2020. For Brazil, private investment increases from 16.3 percent of GDP in 2014 to 17.8 percent in 2020 in the Global Investment Stimulus scenario, whereas in the Business as Usual scenario private investment would decline to 15.4 percent of GDP by 2020.

In developed countries, this scenario also assumes significant increases in investment. For the European Union, the assumptions made on investment, government spending, and income under the European Investment-led recovery scenario are brought forward in this global scenario. Whereas, for the United States the Global Investment Stimulus scenario assumes that private investment increases from 15.8 percent of GDP in 2014 to 19.5 percent in 2020. Greater public investment and/or possible creation of public institutions or mechanisms to help fund private investment could be channels for such investment. This increase would bring investment in the US to early 2000s levels and represents a significant jump compared to the Business as Usual scenario, where investment would only reach 17.2 percent of GDP by 2020 (table 1A in the appendix presents a more complete list of historical and projected results of investment as percentage

of GDP under both the Business as Usual and global investment stimulus scenario).

IV Scenario outcomes

This section presents the projections produced by the CAM under the assumptions and specifications described for the three scenarios. Table 5.1 shows historical and projected average GDP growth rates for each scenario. World growth is faster under the Global Investment Stimulus scenario as benefits of higher investment rates are achieved in most parts of the world.

Under the Business as Usual scenarios, the lack of a coordinated investment stimulus coupled with a continuation of austerity policies in the European Union translates into further decline of average world GDP growth rate to 2.7 percent for the period 2015-2020.

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Under Business as Usual in the European Union, average GDP growth for the period 2015-2020 only reaches 1.8 percent, which is still well below early 2000s levels. As hoped, private investment in the European Union increases from 15 percent of GDP to almost 18 percent by 2020 (Table 1, Appendix 1) due to greater resources availability under the proposed Investment Plan for Europe. However, it is clear that this plan is not sufficiently big enough to stimulate the European economy. This plan's potential positive effects are further undermined by continued cuts in government spending, which ultimately depress aggregate demand and economic output.

Indeed, the European Investment-led Recovery scenario demonstrates how the combination of a greater investment plan for Europe (in the region of Euro 750 billion for the next five years), where both the European Investment Bank and national development

banks could play an important role, and a more expansionary fiscal stance leads to a much more positive growth performance, as average GDP growth for the period 2015-2020 reaches 3 percent. This is particularly beneficial for the South Eurozone, as average GDP growth for the period 2015-2020 would increase from 1.6 percent under the Business as Usual scenario to 3.3 percent under the European Investment-led Recovery scenario. Further, this alternative policy stance in Europe would also have a beneficial effect on world economic output, given the weight of the European economy vis-à-vis the rest of the world.

The Global Investment Stimulus scenario presents a much more optimistic global context where different regions across the globe put in place action to increase investment rates, both through higher public investment and through a greater role of national and regional development banks. In this scenario, for the period 2015-2020, average growth rate of global private investment is 7 percent, which is significantly higher than the average growth rate under the Business as Usual scenario. Higher investment rates translate into higher GDP growth across the world. In South Africa, for instance, average GDP growth for the period 2015-2020 reaches 2.4 percent, whereas under the Business as Usual scenario it only reaches 0.8 percent over the same period. In the region of low income, Africa's average GDP growth is 4.8 percent under the global investment stimulus scenario whilst, under the Business as Usual scenario, average GDP growth for this region stands at 3.1 percent. Overall, global economic output significantly benefits from a higher global investment at a global level, as average world GDP growth for the period 2015-2020 reaches 4.3 percent.

It is also important to look at the impact of the alternative policy strategies on the

European Union and their implication on employment, government debt, and fiscal deficits. This is particularly important given that alternatives to austerity are often discounted by mainstream commentators as not being economically viable because they would lead to higher government debt and greater fiscal deficits.

Figure 5.1 presents the outcomes in terms of government-debt-to GDP for the South Eurozone and for the United Kingdom. The alternative, investment-led scenarios, lead to more favorable results in terms of debt-to-GDP ratios compared to the Business as Usual scenario. Whilst debt levels for all the three scenarios are projected to remain above 60 percent of the debt-to-GDP ratios prescribed by the Stability and Growth pact, the important gains to GDP achieved in the investment-led scenarios lead to lower levels. In the South Eurozone, under the global investment stimulus scenario, debt-to-GDP ratio levels off at 135 percent of GDP by 2020, whilst it moderately increases to 144 percent of GDP under the European Investment-led Recovery scenario. Particularly worrying is the trajectory of debt-to-GDP ratio under the Business as Usual scenario where, as a result of poor economic growth, it continues to increase sharply and reaches 168 percent of GDP by 2020. In the United Kingdom, by 2020, debt-to-GDP ratio reaches 93 percent under the global investment stimulus scenario and 98 percent under the European Investment-led Recovery scenario, whilst under the Business as Usual scenario the debt-to-GDP ratio continues its historically increasing trajectory and reaches 107 percent of GDP by 2020.

INSERT FIGURE 5.1 (images a & b) HERE

The alternative investment scenarios also lead to significant improvement in fiscal deficits in the European Union, in particular vis-à-vis the Business as Usual scenario. Again here the role played by development banks is particularly valuable, as with limited public

resources-used to fund paid-in capital, they can leverage significant private investment, as they co-finance and co-invest with private banks and investors.

Table 5.2 presents the projected results of net government lending as percentage of GDP for the South Eurozone and the United Kingdom. These two areas of the European Union present the highest fiscal deficits since the onset of the North Atlantic financial crisis.

INSERT TABLE 5.1 HERE

In the South Eurozone, the more positive results in terms of fiscal deficit reduction are achieved under the global investment stimulus scenario. By 2020, under this scenario, net government lending as percentage of GDP decreases from -6.1 percent in 2012 to -3.6 percent in 2020. The results of the European Investment-led Recovery scenario are also more favorable than the Business as Usual scenario, as by 2020 net government lending reduces to -4 percent of GDP whilst in the Business as Usual scenario net government lending as percentage of GDP still remains at -5 percent in 2020. In the United Kingdom the two alternative investment scenarios produce similar results in terms of deficit reduction. Under both scenarios, net government lending as a percentage of GDP reaches -3.9 percent of GDP by 2020. This represents an improvement when compared to the Business as Usual scenario where fiscal deficit in the United Kingdom reduces to -4.3 percent of GDP by 2030.

The analysis of debt-to-GDP ratios and fiscal deficits under the three scenarios shows that an investment-led strategy at the European and global level will bring important gains in Europe not only in terms of higher economic output but also in terms of government-debt reduction and improvements in fiscal deficits. Furthermore, the

alternative investment scenarios achieve important gains in terms of reduction in unemployment in the European Union. Table 5.3 contrasts unemployment as percentage of labor force for the North and South Eurozone under the three alternative scenarios.

INSERT TABLE 5.3 HERE

In the South Eurozone, under all three scenario, the unemployment rate will reduce significantly, as this benefits from additional resources allocated to investment, via the Juncker Plan. However, for the South Eurozone, the global investment stimulus scenario is the one that leads to the lowest unemployment, as unemployment as percentage of labor force decreases from 17.8 percent in 2012 to 13.3 percent in 2020. The North Eurozone did not experience a surge in unemployment during the period of economic crisis. The unemployment rate for this bloc will also experience a greater improvement under the alternative investment-led scenarios.

V Conclusions

In recent years, the valuable role that national, regional, and multilateral development banks can and often do play is becoming widely recognized. The positive role these banks have played in providing counter-cyclical finance as private credit dried up and flows to developing countries collapsed during the North Atlantic crisis which started in 2007, is widely seen as valuable. Furthermore, the greater need for instruments to implement more long term national or regional development strategies has been increasingly recognized. This coincides with growing recognition of the value of a modern industrial policy and the importance of an “entrepreneurial” and development State, that encourages and leads economic development, providing the vision and the dynamic push for private innovation and structural transformation. Stiglitz and Greenwald (2014) add the

very important dimension that successful and sustained growth requires the creation of a learning society and a knowledge economy to increase productivity; public development banks are an important institutional vehicle for supporting this. Indeed, development banks can help overcome market failures in both financial and knowledge markets simultaneously.

After analyzing the roles that development banks can play, as well as exploring the theoretical underpinnings for this, we have simulated three alternative scenarios, which illustrate the very positive impact that a greater role of development banks--together with a slowing down of the excessive fiscal consolidation that has occurred in recent years--can have on investment, growth, and employment, as well as on reducing debt to GDP ratios. These simulations, which have looked both at the European level as well as at a global level via a global investment stimulus scenario, show even higher impacts on investment, growth, and jobs. Overall, the analysis presented in this chapter gives a strong and positive illustration of the need to adopt a set of alternative economic policies for economic recovery and sustainable development and of the crucial role that development banks can play in promoting a sustainable and employment-led investment strategy.

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Appendix

The Cambridge Alphametrics Model (CAM)

The Cambridge-Alphametrics Model (CAM) of the world economy is a non-conventional macroeconomic model that is primarily used to make medium- to long-term projections of historical trends of the global economy, blocs of countries, and major individual countries. This macro-model does not have any single, well-defined equilibrium path to which the economy tends to return in the medium- or long-term. Being an open disequilibrium system, a wide variety of outcomes may be simulated with different growth rates and end points (Cripps 2014). CAM projections draw on continuous historical data from 1970 to the most current year available for model variables (2014 for this exercise). The databank holds series in US dollar values and other units disseminated by UN organizations.

In CAM, the world economy is regarded as an integrated system in which the behavior of different countries and blocs differs and changes progressively through time because of their specific situation in terms of geography, level of development, financial position, and so forth. The macro-model has a common set of identities and behavioral equations for all blocs to reflect the notion that they are part of the same world economy. This common schema allows for panel estimation methods (Cripps 2014).

In the model, aggregate demand and technical progress are the principal drivers

unless other important behavioral constraints are introduced into the model. Thus, long-term growth rate is best understood as reflecting growth of aggregate investment and government spending in the world as a whole. These variables in turn reflect confidence, expectations and policy (Cripps 2014).

Assumptions on private investment: Business As Usual scenario and Global Investment Stimulus scenario

Table 1A shows the assumptions made on private investment for the Business as Usual and the Global Investment Stimulus scenario.

Table 1A. Investment as percentage of GDP, selected world blocs and countries, historical data (1990-2014) and projections (2015-2020)

		Historical						Projections					
		1990	1995	2000	2005	2010	2014	2015	2016	2017	2018	2019	2020
European Union⁴	Business as Usual							15,8	16,3	16,8	17,2	17,6	17,7
	Global Investment Stimulus	18,7	16,6	18,6	17,9	16,0	15,3	16,0	16,8	17,7	18,5	19,2	19,7
United States	Business as Usual							16,2	16,5	16,8	17,0	17,1	17,2
	Global Investment Stimulus	18,8	18,4	20,5	20,3	15,5	15,8	17,1	18,0	18,6	19,0	19,3	19,5
Brazil	Business as Usual							16,2	16,1	15,9	15,7	15,5	15,4
	Global Investment Stimulus	18,0	15,9	15,0	14,2	16,5	16,3	16,8	17,2	17,4	17,6	17,7	17,8
South America (excluding Brazil)	Business as Usual							20,4	20,1	19,8	19,5	19,3	19,1
	Global Investment Stimulus	11,6	18,5	15,7	17,2	18,6	20,7	20,8	20,8	20,9	20,9	20,9	21,0

⁴ Assumptions made on investment for the European Union under the Global Investment Stimulus scenario are the same assumptions made under the European Investment-led Recovery scenario.

India	Business as Usual							24,5	24,5	24,3	24,2	24,1	23,9
	Global Investment Stimulus	21,6	22,8	21,0	27,1	28,9	25,4	25,6	26,2	26,0	26,0	26,0	26,0
China	Business as Usual							35,8	35,7	35,4	35,1	34,9	34,7
	Global Investment Stimulus	22,0	29,5	31,1	34,6	40,3	37,9	35,5	35,8	36,2	36,4	36,6	36,8
South Africa	Business as Usual							16,8	16,7	16,4	16,1	15,7	15,4
	Global Investment Stimulus	16,3	13,2	12,7	14,4	16,4	16,7	17,1	17,4	17,6	17,7	17,8	17,8
Africa low income	Business as Usual							17,2	16,6	16,0	15,3	14,8	14,4
	Global Investment Stimulus	11,7	12,0	11,4	11,7	15,2	16,4	16,9	17,2	17,5	17,6	17,7	17,8
World total	Business as Usual							21,4	21,6	21,8	21,9	22,0	22,0
	Global Investment Stimulus	20,3	19,5	19,8	20,5	21,1	21,4	21,7	22,3	22,8	23,2	23,5	23,8