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Ireland's Investment Crisis: Diagnosis and Prescription

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Abstract

Ireland's post-2007 economic crisis has given rise to persistently and historically low rates of investment, high unemployment, large public and private sector debt overhangs, tight fiscal constraints, and a breakdown in financial intermediation. Lack of investment by the domestic private and public sectors both exacerbates the shortfall in domestic demand in the short-term and undermines the economy's productive capacity in the long-term. Despite significant public investment during the 2000-2008 period, Ireland still faces infrastructure gaps that may constrain the next phase of economic recovery and sustainable growth. This infrastructure deficit is particularly severe in terms of green energy, next generation broadband, secondary roads, water treatment, and waste management. Refurbishing, rebuilding and retrofitting schools and the social housing stock are also activities that promise a high social and economic dividend in the current environment. Despite their increasing salience on the policy agenda in more recent years, Irish SMEs face particularly onerous credit constraints, restricting their capacity to invest and grow. Given fiscal constraints, the government's capacity to address these policy challenges is limited, necessitating the design of innovative funding instruments and a re-orientation of institutional capacity. Ireland could benefit from a fully functioning national development bank to leverage private sector investment in strategically important infrastructure and SME lending. This paper examines successful international models for such investment banks, both long-standing and newly created. It sets out policy options for the short and medium term to address the infrastructure deficit, support SME lending, and move towards phase two of the proposed Strategic Investment Bank.

1. Introduction

After nearly two decades of strong, uninterrupted economic growth and a convergence of living standards towards European norms, Ireland suffered a dramatic reverse from 2008 onwards as its property bubble burst. The legacy of this boom-bust cycle is perhaps a decade of weak growth, chronic under-investment, high unemployment, a broken banking system, a wide if narrowing fiscal deficit, the resort to external financial assistance and a large public and private sector debt overhang.

Having experienced average real GDP growth of 6.42%¹ over the 1987-2007 period, Ireland then experienced a 10.7%² peak-to-trough drop in GDP over a two-year period. The investment component of GDP suffered an even more dramatic 62.4% peak-to-trough drop, falling below 9.5% of GDP, and has since shown little sign of recovery³. At the time of writing, unemployment was at 14%⁴, having been as low as 4.9% as recently as January 2008. Having peaked at 30.9%⁵ of GDP in 2009 on foot of bailing out its banks, Ireland's General Government Deficit was still at the elevated level of 7.6%⁶ in 2012 after seven austerity budgets. Having been as low as 24.7%⁷ in 2006, Ireland's General Government debt-to-GDP ratio is expected to peak at 123.3%⁸ in 2013 before falling slowly while private sector credit stood at 176.8% of GDP in 2012⁹, one of the highest in the world.

Since the autumn of 2010, Ireland has relied on financial assistance from the 'troika' – the EU Commission, European Central Bank and International Monetary Fund. This programme of assistance comes with strict conditionality, most notably on fiscal consolidation. Successive Irish governments have undertaken to cut spending and increase revenue over a number of years such that the General Government Deficit falls below the Maastricht limit of 3% of GDP by 2015. From a peak debt-to-GDP ratio of over 120% of GDP in 2013/4, this fiscal consolidation trajectory, and the large primary balance¹⁰ the authorities expect it to generate, should gradually see the national debt reduced over a period of 20-30 years to bring it below the 60%

¹ Based on OECD annual GDP (expenditure approach, constant prices, national base year) data.

² Based on CSO Quarterly GDP (expenditure approach, constant prices, seasonally adjusted) data, peak in Q4 2007, trough in Q4 2009: http://cso.ie/en/media/csoie/releasespublications/documents/latestheadlinefigures/qna_q42012.pdf

³ Based on CSO Quarterly Gross Domestic Fixed Capital Formation (expenditure approach, constant prices, seasonally adjusted) data, peak in Q1 2007, trough in Q3 2011. By end Q4 2012, GDFCF stood 8.6% above its Q3 2011 level. On a full year basis, GDFCF increased by 1.1% in 2012.

⁴ Seasonally Adjusted Standard Unemployment Rate for April 2013, as per CSO. The SA SUR peaked at 15% in January and February 2012.

⁵ IMF 8th Review, page 36, Table 3 (December 2012). Corresponds to general government balance, as per ESA95 definitions.

⁶ Irish Stability Programme, April 2013 Update.

⁷ NTMA.ie

⁸ Irish Stability Programme, April 2013 Update.

⁹ As at end September 2012. IMF 8th Review, page 36, Table 3 (December 2012). Private sector credit peaked at 220.4% of GDP in 2009.

¹⁰ The primary balance is government revenue less all government expenditure bar debt-servicing costs. The debt-to-GDP ration will fall so long as the ratio of primary balance to GDP is greater than the ratio of the real interest rate less real GDP growth to GDP (Buiter, 1985).

Maastricht threshold¹¹. Such an outcome is, of course, highly dependent on the evolution of GDP growth over the period.

In the decade to 2008, the Irish government addressed significant infrastructure bottlenecks through substantial public investment underpinned by the strategic framework of two National Development Plans. While recognizing the positive impact and legacy of this investment, Irish infrastructure remains insufficient to support the next stage of economic growth in the 21st century. Green energy, flood protection, secondary roads, wastewater treatment and high-speed broadband are areas of particular concern. Given the changed economic and fiscal circumstances post-2008, the second National Development Plan was shelved, many projects being slowed, mothballed or abandoned, thereby reducing the future productive capacity of the Irish economy.

While public sector capital investment has been reduced in light of fiscal constraints, the decline in private sector investment has been even more dramatic. Ostensibly, this decline has been the biggest cause of Ireland's economic slump. Some of this decline can be explained by the elimination of some pre-2008 'froth' – over-investment in unproductive assets such as un-sellable housing developments, for instance¹². More of the decline can certainly be explained by firms' decisions to delay or avoid investment due to reduced expectations for future demand for their goods or services. Even where firms want to invest, however, they cannot be sure of being able to access the credit they need. Ireland's ongoing credit shortage impacts most on smaller firms with weak collateral and no access to capital markets or international sources of funding. Outside of agriculture and construction, Irish Small-and-Medium Enterprises (SMEs) account for 72% of all private sector employment, 52% of Gross Value Added, and 7% of exports (Lawless, McCann and Calder, 2012). Forced and necessary deleveraging of the Irish banking system, a breakdown in Europe-wide financial intermediation, falling asset prices, impaired balance sheets and reduced demand have all served to induce credit rationing that particularly affects SMEs. Without adequate access to credit, smaller firms are unable to invest, grow, create jobs and contribute to economic growth to the fullest extent possible. While the government has adopted a number of initiatives to tackle these credit constraints, the evidence suggests that the contraction in SME lending accelerated in the latter part of 2012.

Although volatile, Foreign Direct Investment into Ireland has remained relatively strong despite the country's economic difficulties. Net FDI inflows were €32.3bn in 2010, for instance, albeit sharply reduced to €8.3bn in 2011. Foreign multinationals do not, moreover, face the same credit constraints as domestic SMEs. Ireland's external demand has been a notable bright spot

¹¹ Under EU rules countries with a debt-to-GDP ratio over 60% must reduce by not less than one twentieth each year the difference between debt-to-GDP and the 60% level. This requirement dates from Council Regulation 1467/97 on speeding up and clarifying the implementation of the excessive deficit procedure, but was newly enshrined in the Treaty on Stability, Coordination and Governance which entered into force on 11th December 2011.

¹² Completions of private dwellings peaked at 93,000 in 2006 (Whelan, 2010), while construction and real estate lending increased its share in total lending from 7% to 28% over the 2000-2007 period (O'Riain, 2012).

in recent years, net exports increasing to a record €42.3bn or 26.4% of GDP in 2012¹³, largely driven by the FDI sector.

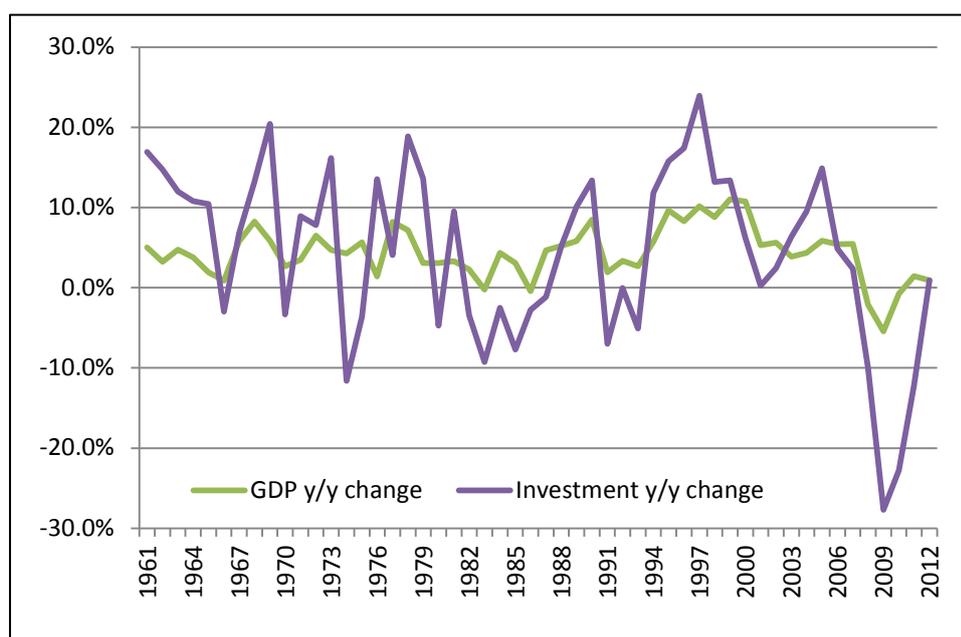
This paper explores the importance of investment to Ireland's economic future, funding options given fiscal constraints, and the potential role for a national investment bank. The paper is ordered as follows: Section 2 examines long-term trends in Irish investment, Irish investment in a current comparative context, and the importance of investment for long-term economic performance. Section 3 explores the short-term economic benefits of investment in terms of growth, employment and fiscal consolidation. Section 4 surveys the evidence of credit constraints facing Irish SMEs. Section 5 reviews the state of Irish infrastructure, and governments' projected spend on capital investment. Section 6 looks at new and old funding options for infrastructure. Section 7 makes the case for a national investment bank, reviews existing and proposed models for such banks internationally. Section 8 concludes and sets out short and long-term policy options.

¹³ Based on CSO preliminary estimates for 2012 GDP, published in March 2013. It should be noted that price transfers and booking of profits in this jurisdiction has a significant but hard-to-measure impact on GDP and Export numbers.

2. The Long-Term Case for Investment

As firms' investment decisions are more responsive to interest rates, asset values, and prevailing macroeconomic conditions than is household consumption, private sector investment tends to be more volatile, driving business cycles and asset bubbles. All else being equal, firms are expected to invest more when interest rates are low, when asset values are rising or such that they do not encumber balance sheets, and when expectations for future economic growth are positive.

Figure 1: Annual rate of change in Irish GDP and Investment



Source: OECD / CSO

Ireland's recent property bubble arose initially in the context of fundamental supply shortages and demographic drivers of demand for housing and a benign macroeconomic environment. Interest rates, the reference rate for which has been set by the European Central Bank (ECB) in Frankfurt since 1999, was inappropriately low for Ireland's booming economy from 2002 onwards, stimulating – and ultimately over-stimulating – both property and non-property based borrowing and investment. The reduced risk-premium on Irish fixed income assets as compared to – for instance – their German counterparts lead in turn to a reduction in the 'spread' – or, simply, the difference – between Irish interest rates and both the ECB benchmark and those prevailing for comparable German debt. In these conditions, Irish banks were able to borrow cheap and plentiful capital, lending it on to Irish firms and households.

Rising asset prices strengthened the balance sheets of firms and families alike, ensuring adequate collateral for further borrowing for investment purposes, and also gave rise to a positive wealth effect, driving consumption. There was, moreover, a prevailing sense that asset prices would continue to increase indefinitely. These trends in private sector investment were

reinforced by government policy: tax incentives for particular categories of investment, notably property, and a 'light-touch' regulatory regime governing lending.

Private sector investment in Ireland had begun to decline over the course of 2007. From late 2008, however, it began to decline precipitously, despite record low official interest rates introduced by the world's leading Central Banks to ward off economic depression in the wake of an unprecedented global financial crisis. The risk-premium on Irish fixed-income assets, which had all-but disappeared, widened dramatically while Irish banks' access to short-term funding on the inter-bank market all-but dried up. Irish banks were particularly exposed to such funding problems because their loan portfolios were backed by a much smaller proportion of 'sticky' deposits than either historically or elsewhere.

Over-supply in the housing market, severe over-indebtedness amongst firms and families, and the credit crunch arising from the financial crisis all combined with the darkening economic clouds globally to induce a severe recession in Ireland. In what Fischer (1933) and Minsky (e.g. 1992) would have identified as a debt-deflation spiral, falling asset values and contracting credit became self-reinforcing, leading to widespread financial distress, amongst property developers, the banks, households, and ultimately the sovereign.

Ireland thus displays many of the characteristics of what Koo (2009) calls a 'balance sheet recession'. Koo's key insight is that in a country facing the sort of 'balance-sheet recession' firms facing low interest rates, who under normal circumstances are assumed to be profit-maximizing, instead prioritize debt-minimization and balance sheet repair following the bursting of a nation-wide asset price bubble:

When a debt-financed bubble bursts, asset prices collapse while liabilities remain, leaving millions of private sector balance sheets underwater. In order to regain their financial health and credit ratings, households and businesses are forced to repair their balance sheets by increasing savings or paying down debt. This act of deleveraging reduces aggregate demand and throws the economy into a very special type of recession... Spain and Ireland, for instance, are both in serious balance sheet recessions, with private sector deleveraging reaching 17 percent of GDP in Spain and a whopping 21 percent of GDP in Ireland, all under record low interest rates. (Koo, 2011)

Koo argues that balance sheet recessions that follow financial crises are particularly severe and long lasting. As monetary policy loses its ability to influence demand in the short term – firms being unwilling to take on more debt no matter how low are interest rates – fiscal stimulus is essential to support investment and prevent a prolonged economic slump. In effect, the state must become 'investor of last resort'.

Aschauer (1989) was among the first to establish strong links between public sector capital investment and long-run growth in Total Factor Productivity. In his study of non-military public investment in the US, he noted the post-1970 decline in productivity growth paralleled a decline in the growth rate in the stock of government capital. This research attaches particular significance to 'core' infrastructure such as roads, water and waste systems. Aschauer's work gave rise to a genre of similar papers, notably Gramlich's 1994 work on infrastructure investment. He takes a more expansive and circumspect approach, surveying not only

econometric studies, but also studies that followed engineering, economic rate of return and political voting outcome approaches. While reluctant to draw firm conclusions on the link between the public capital stock and productivity, or the extent of any infrastructure deficit, he argued that a far more important innovation would be to establish the most appropriate institutions for determining these needs – and how they should be financed – on an ongoing basis. In analysing the impact of fiscal policy on long-run growth across a range of countries, Easterly and Rebelo (1993) found that transport and communication investment, in particular, is consistently, positively and strongly correlated with growth. The authors argue, moreover, that this type of investment raises growth not by catalysing private sector investment, but by increasing what they termed its ‘social return’. This can be understood to mean that overall private sector investment is qualitatively enhanced, through positive externalities to society, by investments in transport and communications infrastructure.

Public sector investment, being subject to politicized decision-making, tends to reinforce the direction of the private sector investment cycle. When times are good, a healthy fiscal position can induce, or at least remove barriers to, capital expenditure. Ireland’s two ambitious National Development Plans, covering the periods 2000-2006 (totalling €51.55bn in 1999 prices) and 2007-2013 (originally foreseen to reach €183.7bn at current prices), addressing the country’s significant infrastructure deficit, are testament to this.

While a certain amount of this investment may be considered, in hindsight, not to have been subject to sufficiently robust ex ante cost-benefit analysis, Ireland’s impressive motorway network is just one example of the positive legacy of public investment during the Celtic Tiger era. Not only does enhanced infrastructure benefit all citizens, but it also helps improve productivity in the private sector and can promote balanced regional development.

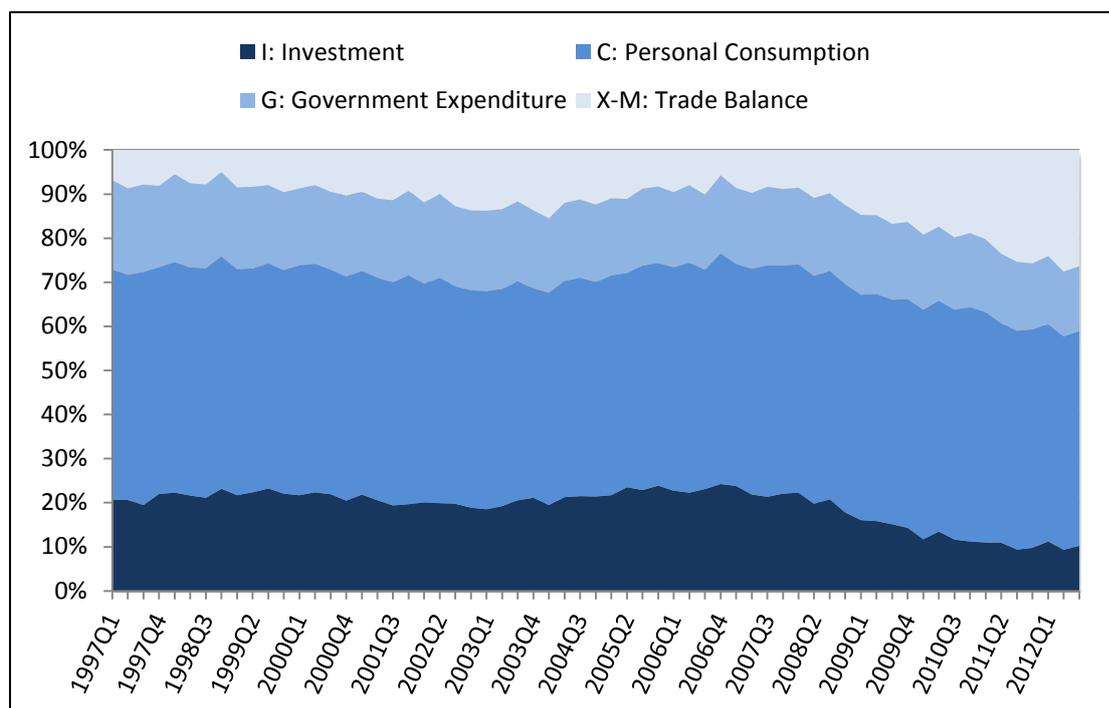
During periods of fiscal retrenchment, governments invariably slow or stop capital investment first, finding this to be a far more politically amenable approach than either raising taxes or reducing current spending (e.g. Morgenroth, 2009). Voters care more about their ‘back pocket’ than the prospect of new roads, power plants or fibre-optic broadband networks. Government voted capital spending in Ireland has fallen from its 2008 peak of €8.6bn¹⁴ to €3.5bn¹⁵ in 2012 and a budgeted €3.2bn” to 3.4bn¹⁶ annually over the 2013-2016 period. The Department of Public Expenditure and Reform (2011) has, moreover, signalled that the core focus of capital investment over the coming years would be the maintenance of existing infrastructure, rather than new projects. Government is stepping back from capital investment at the very moment when the prospect of crowding out the private sector is least. Indeed, this may even reduce the scope for achieving their stated objective of catalyzing further private sector investment, through Public Private Partnerships (PPPs), for instance.

¹⁴ As per Department of Finance end-of-2008 exchequer statement.

¹⁵ As per Department of Finance end-of-2012 exchequer statement.

¹⁶ As per Department of Public Expenditure & Reform Infrastructure and Capital Investment 2012-2016: Medium Term Exchequer Framework.

Fig 2: Composition of Irish GDP, 1997-2012



Source: CSO

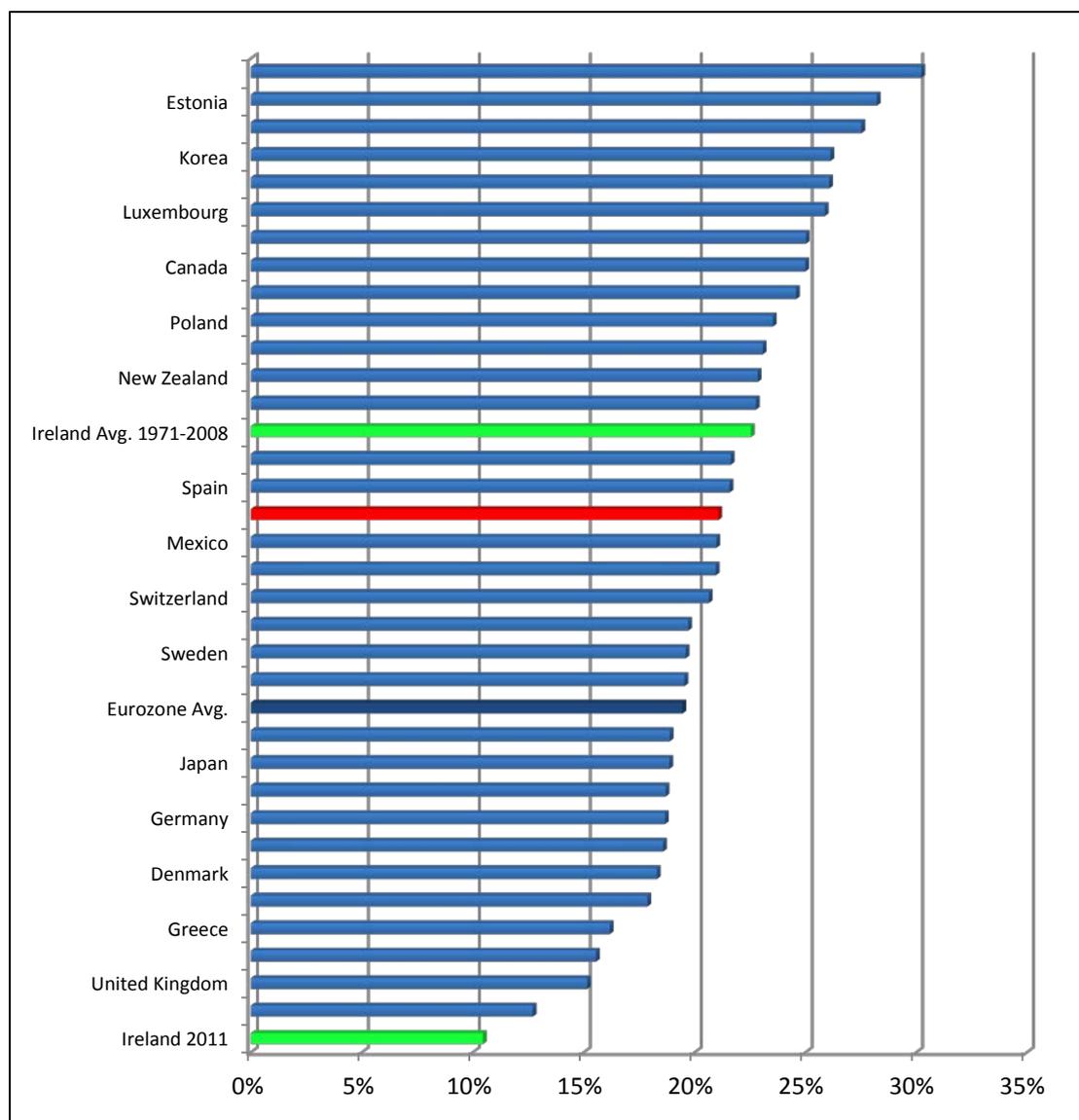
That much of the pre-2009 investment boom was accounted for by construction is undeniable. Between 1995 and 2008, ‘private dwellings’ never accounted for less than a third of overall investment, peaking at nearly 42% – and some 9.4% of GDP – in 2005. Given the extent of over-investment in some types of construction during the last decade, and the extent of over-supply by the latter part of the decade, it is perhaps unsurprising that retrenchment in this sector has been dramatic. Ireland’s overall investment rate (public and private sector), which averaged 22% of GDP over the 1971-2008 period, has fallen to a low of circa 10% in 2011 and 2012, a quarter of which is now accounted for by ‘private dwellings’. Even in the 1980s, by comparison, the investment rate averaged 22.5% and never fell below 18.6%¹⁷. At 10%, the Irish investment rate in 2011 was less than half the OECD average, half the Eurozone average, only four fifths that of Iceland, the next lowest OECD member at 12.7%, and less than Greece (16.2%), Portugal (17.9%), Italy (18.9%) and Spain (21.6%). Estimates of 2012 GDP suggest that Ireland’s

¹⁷ Authors’ calculations based on data extracted from OECD.Stat.

investment rate remained effectively unchanged at 10% while the IMF projects that it will not increase to any significant degree by 2017¹⁸.

¹⁸ IMF World Economic Outlook

Fig 3: Investment rates as % of GDP, 2011



Source: OECD

It would be a worthwhile exercise, and is perhaps an appropriate avenue for further research, to decompose Irish investment into its constituent parts, and to analyse the comparative dynamics. In addition to dividing investment into its public and private sector components, private sector investment can be usefully further decomposed into productive investment in, for example, plant and machinery, and spending on private dwellings, much of which expenditure could be classified as a form of long-term consumption. There are, furthermore, elements of public sector current spending that may warrant treatment as investment. It can be argued that expenditure on skills, training and education is an investment in human capital, for example.

Essentially, GDP growth is derived from three sources: 1) capital accumulation through investment, 2) an increase in the labour force, and 3) and improved productivity, i.e. the process

through which the factors of production are converted into output. Investment can also support productivity growth, and is required in sufficient amounts at least to keep pace with depreciation and labour force growth if the economy's capital intensity is to be maintained. At the firm level, investment in plant, machinery, intangible intellectual assets etc. increases its future productive capacity. At an economy-wide level, investment in infrastructure not only benefits citizens directly but also increases the productive capacity of the economy as a whole. With record low investment rates, Ireland is in danger of undermining its capacity to generate jobs and growth, and to attract foreign investment, both now and in the future.

3. The Short-Term Case for Investment

On foot of the relatively robust performance of net exports, Ireland returned to modest GDP growth in 2011, albeit far below its long-term trends and potential. Measured on an annual basis, domestic demand and all of its components have continued to contract through 2011 and 2012, with the exception of investment which experienced a modest increase of 1.1% in 2012, albeit from a low base.

The February 2013 National Household Survey showed growth in the number of people employed on an annual basis for the first time since Q2 2008. There was also a drop in the number of people unemployed, albeit driven by emigration and declining labour force participation. 2012 saw the highest average seasonally adjusted standardized unemployment rate since the recession began at 14.7%. This unemployment rate declined from its peak of 15% to stand at 14% at end-April 2013.

Despite these modest improvements in key macroeconomic indicators, the economy looks set to remain weak, and unemployment unacceptably high, if the current policy trajectory is maintained. In its 9th review of Ireland's financial assistance programme, the IMF projects that unemployment will still be 12.4% in 2016 and 10.8% by 2018. Already, long-term unemployment – and particularly youth unemployment, which stands at 30% (NERI, 2013) – has become a stark feature of the Irish labour market. The longer workers are without employment, the more they lose their skills and employability. Frictional unemployment can thus become structural, persistent and very difficult to eradicate. Economists refer to this phenomenon as 'hysteresis' (Blanchard and Summers, 1986). The impact can be particularly negative on the employment and earnings prospects of young people who experience long periods of unemployment early in their career. This has been referred to as a 'scarring' effect (Bell and Blanchflower, 2011).

Standard Keynesian economic theory would suggest that government should engage in counter-cyclical demand management, presumably subject to fiscal constraints. Market and creditor pressure has imposed strict conditionality on the Irish government, essentially institutionalizing a pro-cyclical fiscal policy. In the current environment, the headline targets for deficit reduction – i.e. reducing the deficit below 3% of GDP by 2015 – can only be changed through negotiation at EU level. France, Ireland and other countries have in the past successfully sought an extension of the consolidation period, while by Q2 2013, there was an apparent softening in the position of the EU Commission as regards the utility of fiscal austerity policy. For the purposes of this paper, however, the assumption is one of no policy change, i.e. a continuation of the current fiscal consolidation trajectory. So long as the headline targets are met, there is significant scope in terms of the balance of implementing measures between capital investment, current spending and revenue raising. Furthermore, so long as Eurostat and EU state-aid rules are respected, there should be no objection in principle to 'off balance sheet' capital investment on a commercial basis.

Recent research by the IMF (Blanchard and Leigh, 2012) on estimated short-term fiscal multipliers suggests that the multiplier effect of fiscal measures, in terms of their impact on GDP, is greater than previously thought. Whereas a multiplier of 0.5 had been previously

assumed for IMF forecasts, their research suggests that the actual multiplier could be as high as 1.7. This means that austerity measures of €1bn would reduce GDP by €1.7bn, rather than the €500m that had previously been thought. When they decomposed GDP into its constituent parts Blanchard and Leigh found the multiplier to be particularly large for investment. The impact on unemployment was also found to be large and statistically significant. They cite research (Auerbach and Gorodnichenko, 2012; Batini, Callegari, and Melina, 2012; IMF, 2012b; Woodford, 2011; and others) that suggests multipliers higher than 1 “in today’s environment of substantial economic slack, monetary policy constrained by the zero lower bound, and synchronized fiscal adjustment across numerous economies”.

In a small, open economy like Ireland, multipliers are assumed to be weaker given ‘leakage’ due to the higher propensity to import. This argument is not without merit, but it should also be noted that this ‘leakage’ factor would differ across different classes of investments¹⁹. Buying new rolling stock for the rail network, for example, is likely to be much more import intensive than labour intensive road maintenance, home retro-fitting or school-building. The recent announcement that Ryanair is to acquire upwards of 400 airplanes from Boeing in a deal approaching \$15.6bn at current list prices is another example of high import intensity investment that is unlikely to significantly improve Ireland’s productive capacity. If necessary, capital investments could be tailored to meet labour and import intensity benchmarks as well as required economic return.

Using their HERMES model, Bergin, Conefrey, Fitzgerald and Kearney (2010) found evidence that a €1bn reduction in public capital investment gave rise to GDP multiplier of 0.5 and a €689m reduction in the Exchequer Borrowing Requirement. The authors acknowledge, however, that they completely ignore the supply-side impact of reduced public investment – for instance, through poorer infrastructure feeding through to lower productivity.

Bénétrix and Lane (2009) estimated the short-run impact of a variety of fiscal shocks on Irish output and the real exchange rate based on data from the 1970 to 2006 period. They found that public capital investment has a particularly strong and positive fiscal multiplier effect when compared with either non-wage or wage-based public consumption, the latter of which was found to have a negative multiplier effect²⁰. The implication is that cutting capital spending to reduce the fiscal deficit is likely to have a more negative impact on GDP than are current spending cuts even in the short run. The authors expect that these multiplier effects would vary with the level of slack in the labour market, implying that the public capital investment multiplier should be at its strongest at time like the present when unemployment is over 14%. These findings echo those of earlier, more generalized research (Straub and Tchakarov, 2007) where both temporary and permanent increases in public investment were found to generate larger fiscal multipliers than those from increases in public consumption. Rather than crowding

¹⁹ There is no single, applicable multiplier and multiplier values change over time so that, for example, when there is high under-utilisation of productive capacity, multipliers tend to be higher than at other stages of a business cycle.

²⁰ Bergin *et al* found, by contrast, that the multiplier was positive when the policy variable was inverted – i.e. estimated using pay cuts rather than pay increases.

out private investment, Straub and Tchakarov argue, in a similar vein to Easterly and Rebelo (1993) that a build-up in the stock of public capital improves the productivity of private capital, causing a rise in private investment and output.

Capital investment can generate employment both directly and indirectly during the construction phase, while also increasing growth and job creation capacity for the future. Indirectly, investment will generate more jobs and growth in the short-term, dependent on its true multiplier effect. The Department of Finance estimates that every €1m of capital investment generates 8-12 jobs during the construction phase, dependent on the type of investment (see table 1). The Construction Industry Council estimates job creation potential towards the higher end of this range, at an average of 11 direct and indirect jobs per €1m invested²¹.

Table 1: Jobs Created per €1m invested, by sector

Sector	Jobs per €1m
Health	12
Regional & Local Roads	11.5
National Roads	10
Prisons	10
Schools	9.3
Housing	8
Public Transport	8
Water Services	8
Small-scale refurbishments, fit-outs etc.	Above average

Source: Department of Finance, 2009²²

It has been estimated that as much as half (e.g. ICTU, 2012) of capital investment expenditure is estimated to accrue to the exchequer through increased tax revenues over the short-to-medium term. Job-creation also reduces pressure on the social welfare system, bringing down current expenditure. Over the longer term, a larger and better stock of public capital can be expected to generate higher private sector productivity, investment and growth, in turn generating higher revenues for the exchequer and a lower debt-to-GDP ratio. Some would go so far as to say that public investment could be fully self-financing over time, including for Ireland (e.g. Pereira and Pinho, 2011). Even if such an optimistic assessment were to prove unfounded, it is certainly the case that the negative impact on the government finances is significantly less than the initial outlay would imply. Moreover, if investment is conducted in such a manner as does not impact

²¹ As tender prices fall, it is reasonable to assume that the employment intensity of such investments would increase.

²² Morgenroth (2009) presents detailed historical and current estimates of the job intensity of different types of capital investment, drawing heavily on the US-centric work of Heintz, Pollin and Garrett-Peltier (2009).

on the General Government Balance, it could have a large and positive effect on deficit reduction efforts.

O'Farrell (NERI, 2012) has used the HERMIN macroeconomic model of the Irish economy to simulate the output and employment impact of a €15bn capital investment stimulus over 5 years.

Table 2: Estimated impact of a €15bn capital investment stimulus over 5 years

	2013	2014	2015	2016	2017
Additional Jobs #	46,052	64,353	54,451	55,040	43,127
Additional Jobs %	2.4	3.4	2.8	2.9	2.3
Additional GDP €bn	4.639	7.219	7.084	7.830	7.203
Additional GDP %	3.0	4.5	4.3	4.6	4.1

Note: The additional investment is based on €3bn in 2013, €4bn in 2014, €3bn in 2015, €3bn in 2016 and €2bn in 2017. The additional GDP calculations are in constant price terms.

Source: NERI 2012

This simulation is presented for illustrative purposes and could be refined to generate potential output and employment trade-offs based on the composition of the investment package. As with all such models and projections, there are significant inherent uncertainties. The employment and output impact can moreover be expected to last beyond the time horizon of the investment plan.

In a follow up paper, again using the HERMIN model, O'Farrell estimated that i) €1bn of investment stimulus would create approximately 16,750 short term jobs and between 675 and 850 long term sustainable jobs; ii) the GDP multiplier in the first year of a stimulus is 1.6; iii) crowding out effects are reduced due to the high prevailing level of unemployment; iv) the direct effects of an investment stimulus are increased by the reduction in construction prices; v) though imports rise during the construction phase of a stimulus, this effect is short lived, and there is a long term increase in exports due to enhanced productivity and competitiveness; vi) due to greater tax revenues resulting from higher GDP, the up-front net cost of a €1bn investment is €575 million; vii) such investment would be self-financing, as the long term increase in tax revenue more than offsets the interest payments on the initial capital outlay.

These findings are not inconsistent with either the Department of Finance's own estimates of the labour intensity of capital investment or the previously cited research by Pereira and Pinho. Further research is required to shed light on both the extent of fiscal multipliers in Ireland at a time of weak growth and low private sector investment and the variability in such multipliers, both short and long-term, by type of investment. Such research would benefit also from the study of the relative impact of productivity enhancing current expenditure, such as investment in human capital through education and training. While fiscal policy is determined through a

political and democratic process, and motivations for spending decisions may vary, even across time, Morgenroth (2009) highlights some of the relevant trade-offs faced by policymakers:

Public capital projects should be undertaken on the basis that they have a long-run return to the whole economy. Those projects with the highest long-run return should be prioritised. Short-term employment considerations should be secondary to this. If public investment is to support employment creation this should be done on the basis of proper evaluation, considering the cost per job and the value of the alternative use of labour. Ad-hoc reallocation of investment resources is likely to be wasteful of scarce public funds and thus counterproductive.

One further potential short-term, if indirect, benefit of fiscal stimulus could be a reduction in the incidence of mortgage default, thereby reducing the capital requirements of state-owned banks, as increased government investment feeds through to increased employment, better economic growth and higher house prices (Kelly and McQuinn, 2013).

4. Credit Constraints Facing Irish SMEs

Always and everywhere, SMEs face greater credit constraints than their larger counterparts due to market failures such as information asymmetries and moral hazard (Stiglitz & Weiss, 1981). As economies develop, these market failures tend to be corrected through improvements to the institutional framework, through for instance credit bureaus, technological developments that facilitate credit-checking, improved property rights, and the establishment and proper enforcement of the rule of law. When credit is scarce, however, banks may be forced to ration credit, and SMEs are inevitably those that suffer most acutely. Credit constraints thus undermine smaller firms' capacity to invest, grow, create jobs and improve productivity. In a dynamic innovation-driven economy, this phenomenon is likely to particularly impact on high-potential, high-growth, high-tech start-ups with limited collateral.

While emphasizing the economic importance of the SME sector in Ireland Lawless, McCann and Calder (2012), highlight the ongoing challenges they face in accessing the credit they need to fulfil this role. In particular, they present evidence that "in terms of loan rejection rates, interest rates, collateral requirements and fees and commissions, Irish SMEs appear to be currently experiencing much tougher credit conditions than the euro area average."

Holton and McCann (2012) provide a comprehensive overview of the evidence presented in the EU Commission and ECB's Survey of Access to Finance of SMEs (SAFE) and the Mazars SME lending demand survey, commissioned by the Department of Finance. While apparent demand for credit among Irish SMEs is similar to the European average when measured by application rates, Irish SMEs are the second most likely in the euro area to avoid applying for loans because they expect to be rejected. 14.8% of surveyed Irish SMEs fell into this category in March 2012 according to the SAFE study, behind Greece (21.2%) and ahead of the Netherlands, ranked third at 9.9%. This suggests that underlying demand for credit may be much higher among Irish SMEs. Rejection rates for SME loans in Ireland, at approximately 1 in 4 – are also the second highest in the euro area after Greece, indicating fundamental supply constraints in meeting even this understated demand. Finally, the evidence suggests that the terms and conditions – particularly those unrelated to price – attached to SME loans granted in Ireland are currently among the most onerous in the Eurozone.

The extent of credit constraints facing Irish SMEs, and the appropriate public policy response, is still a matter of some debate. Recent research present by Gerlach-Kristen, O'Connell and O'Toole (2013) suggests that these constraints may have been overstated. They conclude, for instance, that constraints only affect at most one in nine Irish SMEs, but that the constraints are greater for i) smaller, micro-SMEs, ii) younger SMEs, iii) SMEs in domestic oriented sectors, iv) loss-making SMEs or those making negligible profits, and v) SMEs with a debt overhang. By contrast, the most recent ECB (2013) survey indicates that Irish SMEs i) face the second greatest financing obstacles in the Eurozone, after Greece and ii) have the lowest success rate in securing all or most of lending applied for. They found, moreover, that interest charges faced by Irish

SMEs have been on the rise, even as total SME lending has been in decline and the policy rate has been steady.

The Central Bank Trends in Business Credit and Deposits for Q4 2012 showed that non-financial, non-property related SME lending by Irish resident credit institutions fell by 5%, or €1.4bn in 2012, bringing the total outstanding lending to this segment to €1.4bn by year end. Lending to the entire SME sector stood at €71.1bn, down 2.8% on the year. In both cases, there was evidence of a moderate acceleration in the decline in the fourth quarter of the year.

Recognizing these credit constraints and their economic importance, the government has adopted several initiatives to boost SME lending, including the establishment of a Credit Review Office, the setting of SME lending targets for the largely government-owned banking system, the introduction of a loan guarantee scheme and the creation of three funds dedicated to SME financing under the auspices of the National Pension Reserve Fund (NPRF). Improving access to finance for micro-to-medium sized enterprises is also a core component of the government's 2013 Action Plan on Jobs, with a number of further initiatives foreseen²³.

Deleveraging is set to continue across the Irish banking system for a number of years. Given the weak balance sheets and difficulties in posting adequate collateral that afflict many Irish SMEs, particularly those with exposure to property assets that have decreased in value, it is likely that credit constraints will prevail for some time. Given the extent of the challenge, there may be a need to scale up a number of these initiatives once their initial impact has been adequately assessed. At present, public financial supports for SME lending are largely recent and disparate. There may be an argument to bring them 'under one roof' to improve policy coherence and coordination. While the European Investment Bank (EIB) is developing a lending programme in conjunction with Allied Irish Banks, there is much further scope for cooperation with both the EIB and its SME dedicated subsidiary, the European Investment Fund (EIF). In particular, options could be explored for the use of European funds allocated to support SME lending, notably the Competitiveness and Innovation Framework Programme (CIP) and Join European Resources for Micro to Medium Resources (JEREMIE). The latter may be a particularly innovative use of European Regional Development Funds allocated to Ireland's Border, Midlands and Western region under the EU's Multiannual Financial Framework 2014-2020²⁴. Conceivably, such a fund could also be set up on an all-Ireland basis in collaboration with the UK government given that Northern Ireland is also a recipient of EU structural funds.

²³ A full survey of state supports for SMEs is available here: <http://banking.finance.gov.ie/wp-content/uploads/State-Financial-Support-for-SMEs.pdf>

²⁴ Although the budget process was not complete at the time of writing, it is most likely that the overall Financial Framework will entail a real terms cut with respect to its predecessor, while it is certain that Ireland's ERDF allocation will be much reduced.

5. The State of Irish Infrastructure

The last sustained period of economic weakness and fiscal consolidation in Ireland in the 1980s gave rise to chronic under-investment in both housing and infrastructure. This infrastructure deficit gave rise in turn to bottlenecks that acted as brakes on productivity growth and quality of life improvements until the late 1990s and early 2000s. The public and private sector investment boom that followed addressed many of these infrastructure gaps, allowing Ireland to catch up with comparator countries.

Given that the convergence of Irish GDP per capita with European norms is a relatively recent phenomenon and significant dedication of national resources to infrastructure investment even more so, it is hardly surprising that the country's stock of infrastructure continues to lag that of other advanced countries in many areas. While recognizing the very real restrictions on the governments' fiscal position and the on-going restrictions on access to credit in the private sector, the risk remains nonetheless that the mistakes of the 1980s are repeated, potentially delaying and constraining economic recovery. A sustained period of low double-digit, or even single digit, investment rates may jeopardize the future capacity of the Irish economy to generate jobs, growth and competitiveness-enhancing productivity improvements.

Echoing this line of thinking, IBEC (2011) notes that "significant, and ultimately very costly, long-term socio-economic problems result from a lack of adequate infrastructure provision".

The National Competitiveness Council (2011) identifies competitively priced, world-class infrastructure in the domains of energy, telecoms, transport, waste and water as critical to support competitiveness. The NCC notes, moreover, that recent cost reductions and improved value for money make it an opportune moment to invest in addressing remaining infrastructure gaps. Given relatively low yields on alternative investments at present, infrastructure is also a potentially lucrative investment opportunity for private sector finance.

Transport

Internal and external connectivity is not only important for citizens' quality of life, but is essential to economic development. A good transport and logistics system allows for the smooth flow of goods, facilitating trade, tourism, membership of global supply chains, and balanced regional development. Transport infrastructure is particularly salient given Ireland's dependence on global trade, its relatively low population density and its geographic location on the far western periphery of Europe. While the economic contraction of recent years has reduced near-term demand for transport infrastructure, it is possible that under-investment now could give rise to bottlenecks in the future if and when the economy returns to above-potential economic growth rates.

In a recently published review of infrastructure in Ireland, Engineers Ireland (2013) notes a dichotomy in Irish transport: world-class flagship projects alongside sub-standard networks. National secondary, regional and local roads (i.e. other than motorways; this is particularly important in the context of rural transport, balanced regional development and thus social inclusion), rail and seaports come in for particular attention. Investment in these areas would

be consistent with the strategic shift in focus set out by the Department of Public Expenditure and Reform: to prioritize investment in and upgrading of existing infrastructure over new projects, or quality over quantity. It should be noted, however, that while investment in national, regional and local roads was set to fall by 40% between 2012 and 2013 alone (PER, 2011) from €890m to €528m, investment in public transport was set to increase by 19% over the same period from €256m to €304m (PER, 2011). Given their importance in supporting Ireland's export-led recovery, and long lead times for infrastructure projects, the commercial ports require urgent planning and investment to ensure that global trends in favour of larger vessels can be accommodated (Engineers Ireland, 2013).

Energy

Electricity is a key input for the productive sectors of the economy, and an important consideration for Foreign Direct Investment location decisions. In the World Bank's (2013) most recent 'Doing Business' survey, Ireland ranked 95th for access to electricity. While this may be in part the result of operational as opposed to infrastructural deficiencies, it shows there is no room for complacency as to infrastructure quality. As with transport, recent weakness in the economy has undermined near-term demand, while investment over the past decade has improved supply, meaning that capacity constraints are not a significant issue at present or for the immediate future.

Ireland is one of the most oil import-dependent countries on the planet (Forfas, 2006). Faced with ambitious EU carbon reduction and renewable energy targets, however, significant investment will still be required in power generation over the medium-term to improve carbon efficiency. Progress is being made in terms of greening Ireland's energy supply, but significant and accelerated investment will be needed if Ireland is to meet its target of sourcing 40% of its electricity supply from renewable sources by 2020. In the long term, capitalizing on Ireland's supposed, if latent, comparative advantage in renewable energy generation will require also require very substantial investment, particularly to upgrade to electricity grid to facilitate the connection of wind and other renewable energy sources. The 'green sector' has the potential to be a motor for economic growth, job creation, electricity exports and reduced import dependency.

Commercial Semi-State enterprises are key players for energy investment. Any proposals to privatise state power generation assets, such as Bord Gáis Eireann, must remain cognizant of the need to maintain investment in Ireland's energy infrastructure. The privatisation of Eircom, for instance, gave rise to a lengthy period of under-investment in broadband infrastructure at a time when the internet was revolutionising commerce. Ireland cannot afford a repeat performance in the energy sector as it pursues its ambitious efforts to reduce carbon emissions and import dependency.

Telecoms

Communications services are not only critical inputs for the productive sectors; they also facilitate productivity growth across the economy through enhanced connectivity. Irish fixed and mobile telephone infrastructure compares favourably to other advanced economies. According to the National Competitiveness Council (2011) "the widespread availability of

advanced broadband infrastructure and services is essential to realising future growth potential in existing and emerging sectors.” The decision of companies like Google, Facebook and Amazon to locate their European bases in Ireland is testament to the progress that has already been made in this area. Cloud computing can be an important growth sector, but will require continued investment to maintain and enhance network capacity and quality.

Universal access to basic broadband has not yet been achieved, however. The next challenge is to deliver the advanced, high-speed internet access demanded by businesses in Ireland, domestic and foreign. The rollout of high-speed broadband to all secondary schools by 2014 in line with government policy will also require sustained investment.

After several years of neglect following the privatisation of Eircom, government stepped in to address this market failure, ramping up its investment in broadband infrastructure so as to complement and catalyse private sector investment. Given that a significant amount of Irish telecom infrastructure is foreign owned, it is necessary that government retains both a policy environment conducive to investment and continued financial support for the provision of public goods, like widespread Wi-Fi hotspots. In the case of telecoms, the state’s role is primarily that of enabler, rather than lead investor, although it should stand ready to correct market failures where they do occur. The National Competitiveness Council (2011) points out that “given the weak telecommunications investment climate in Ireland, our dispersed population patterns and the recession, it is unlikely that the required investment will be made by the private sector within a timescale that will allow Ireland to catch up with competitor countries and to meet challenging EU targets for 2020. If the market cannot deliver, the State will need to intervene.”

Water

Access to a safe, reliable water supply is both a human necessity and an economic imperative, being one of the factors in FDI location decisions. Despite being blessed with a relative abundance of potable water, Ireland’s antiquated water network gives rise to significant inefficiencies and leakages in the system. These will require significant on-going investment to address.

Irish Water was established as a Commercial Semi-State body in 2012 to take over the management of Ireland’s water supply from local authorities. It will impose water charges on domestic users for the first time, using funds to invest in upgrading the delivery system as well as meeting on-going maintenance and operating costs. On an on-going basis, Engineers Ireland (2013) recommends replacement of 1% of the water supply and wastewater network every year in line with international best practice. In the long-term, they note that significant investment will be required to ensure Dublin’s water supply, in particular.

Substantial parts of the country remain exposed to the risk of flooding, not least those residential developments built on flood plains during the Celtic Tiger years. While localised flooding is a regular occurrence, the widespread floods of 2009 served to highlight deficiencies in Ireland’s flood management infrastructure, notably river channels and flood defence mechanisms. Engineers Ireland note that while the capital budget of the Office of Public Works has been largely protected, with capital investment of some €45 per annum envisaged (PER,

2011), spending cuts at local authorities are likely to undermine their ability to adequately fulfil their flood protection responsibilities. Under current government plans, investment in the water services programme is set to fall by 20% between 2012 and 2014, from €371m to €296m.

Waste

As Ireland moves further away from using landfill as the primary approach to waste management, substantial investment will be required to ensure national and EU targets are met. Pending planning approval, significant waste-to-energy projects are slated for Dublin and Cork. As in other domains, the economic slowdown of recent years has reduced demand for waste management facilities. Over 40% of municipal waste, including most hazardous waste, is currently exported (Engineers Ireland, 2013), however, reflecting the need to upgrade domestic infrastructure. Engineers Ireland identify, in particular, the need for investment in 'final destination facilities' such as biological treatment and waste-to-energy plants. The Medium Term Exchequer Framework for Capital Investment and Infrastructure (PER, 2011) foresees no role for public investment in the solid waste sector.

Social Infrastructure

Investment in schools, social housing and medical facilities are critically important to the improvement of quality of life and the maintenance of social cohesion. By improving the stock of human capital and making Ireland a better place to live, work and invest, they can directly boost labour productivity and provide indirect benefits to economic development.

Unlike much of Ireland's network infrastructure, demand for social infrastructure is to a great extent exogenous to economic growth, being determined more so by long-standing demographic trends²⁵.

Between 2011 and 2017, Ireland will see an increase in its primary and secondary school population of some 70,000 (PER, 2011). To meet this increased demand, a 27.5% increase in schools capital investment is foreseen between 2013 and 2014 from €364m to €464m. This is to entail the construction of 40 new schools and the extension and refurbishment of many more over the 2011-2017 period. Public capital investment in higher education, by comparison, is set to be phased out, falling from €60m in 2012 to €1.5m in 2016. If this cannot be replaced by private sector investment, there may be serious implications for the future innovation capacity of Ireland's 4th level sector. If it is replaced by private sector funding, there may be implications for the delivery of higher education if commercial concerns become preponderant.

An expanding, and ageing, population with more exacting demands for health outcomes will continue to drive demand for more and better medical facilities for years to come. With a funding envelope of €2bn foreseen for the 2012-2016 period (PER, 2011) the government will

²⁵ While demographic trends may be an important determining factor, higher per capita incomes may also lead to a shift in 'consumer tastes', for instance a greater propensity to consume private healthcare.

focus capital spending on three flagship projects: a new national children's' hospital, a replacement central mental hospital, and a national project for radiation oncology. €200m is to be allocated to upgrading the ICT capacity of the health service, which should in turn facilitate improved service provision and better cost management.

Upwards of 100,000 households are on housing waiting lists. Despite an expanding population and an already insufficient social housing stock, the capital budget for social housing is to be halved between 2012 and 2014 from €189m to €92m. In mid-2012, Deutsche Bank estimate that there were nearly 290,000 vacant homes in Ireland, of which 60,000 are holiday homes. Poor spatial planning in the past means that many of these vacant homes are in areas where demand for housing is unlikely to soak up this excess supply for many years. With the number of newly constructed dwellings now at levels not seen since the 1960s, and given strong demographics, there is potential for the emergence of an under-supply of housing, particularly in Dublin, in the coming years.

6. Infrastructure Funding Options

Purely Private

Orthodox economic theory would suggest that where markets operate efficiently, where infrastructure investment is at a socially optimal level and generates an attractive risk-adjusted commercial return, there may be little need for government intervention. One example in the Irish case might be mobile telecom infrastructure, which mobilized significant private sector investment once a strong consumer market had been firmly established. Even commercially viable projects, however, often entail a large degree of risk to the investor. Projects typically entail a large up-front investment and little or no revenues during the design and build phase. Revenues only materialize once the infrastructure is operational, may take some time to ‘ramp up’ to full capacity utilization, and may be dependent on usage projections that are themselves subject to much uncertainty. Without any government intervention, this uncertain risk-reward formula may lead to market failure, and ultimately the under-provision of important public goods. Private operators are not expected to have social objectives beyond profit maximization, whether in the short or long term. The Irish fixed telecom sector also provides a salient example of a privatized utility company that took on significant debts not to fund investment but to increase Return on Equity. The result was investment in the communication sector at a socially sub-optimal level, and a legacy of an internet infrastructure that lagged peer countries.

Traditional Public Procurement

Much physical infrastructure is of a ‘network’ nature, creating in many cases a natural monopoly where multiple providers are not possible or not optimal. Duplicating a road, electricity or telecoms networks, for instance, may be neither feasible nor advisable. It may not be desirable to grant monopoly market power over strategically important infrastructure to a private sector operator. Infrastructure, moreover, often displays the characteristics of a public good, such that under-provision induced by market failure leads to a sub-optimal societal outcome. For these reasons, large infrastructure projects in the modern era have typically been undertaken by government or state sponsored bodies.

In terms of general government accounting²⁶, payments are recorded as capital expenditure in the year they are made, typically with a large up-front lump sum or in several large instalments. Facing fiscal constraints in any given year, governments may endeavour to offset such spending against capital receipts by selling assets or to smooth payments over a number of years, through public private partnerships for instance.

²⁶ The General Government Balance is closely watched by the ECB and EU Commission. The GGB is the deficit limited to 3% of GDP under the Maastricht criteria, while this is also the metric used for Ireland’s targeted deficit reduction trajectory as agreed with the ECB, EU Commission and IMF.

Cash Balances

The NTMA currently manages some €30bn in cash balances as a strategic reserve to smooth Ireland's return to the sovereign bond market. These funds are already counted against the Gross General Government Debt (but obviously not the less closely watched Net General Government Debt). They have not been counted against the General Government Balance²⁷ (GGB), and will not be until they are utilized. Once utilized, they must be counted against the GGB. These cash balances cannot be considered to be available for use for investment purposes, but are rather pre-borrowing to fund future spending while maintaining a margin of safety should market turbulence return once Ireland has returned to the sovereign debt market. It is intended for these cash balances to be wound down over a number of years to meet repayment commitments as sovereign debts reach maturity. It should also be recognized the substantial cost inherent in maintaining such a large cash buffer. Based on an average interest rate of 4.9%, a €30bn reserve will generate an annual interest charge of nearly €1.5bn against the GGB. Running down these cash balances will not only reduce this cost, but should be interpreted as a sign of confidence that Ireland's return to sovereign bond markets is sustainable.

Commercial Semi States & NewERA

The New Economy and Recovery Authority (NewERA) was established under the umbrella of the NTMA by the incoming government in 2011, with a dedicated Minister for State, having been proposed by Fine Gael prior to the 2011 election. In essence, NewERA is a body tasked with managing the government's portfolio of Commercial Semi-State Bodies (CSSBs). It is expected to oversee the restructuring and disposal of CSSBs in line with the government's privatization plans while coordinating their investment in energy, broadband and water infrastructure. Initially, NewERA was to manage the state shareholdings in the ESB, Bord Gáis, EirGrid, Bord na Móna and Coillte. Of these, only Eirgrid is not subject to plans for full or partial privatization. Irish Water has been established as a subsidiary of Bord Gáis to provide and charge for water in Ireland. It is envisaged that meters will be installed and charges to be levied on all households – businesses already pay for water – by 2014/2015.

CSSBs in Ireland have a long history of investing to support social and economic development. In setting out its 2012-2016 Medium Term Exchequer Framework for Infrastructure and Capital Investment (2011), the Department of Finance envisages an important role for NewERA and the CSSBs to invest in infrastructure: "Using existing NPRF resources and proceeds from the sale of State assets, subject to the agreement of the external partners, NewERA will work with line Departments and the private sector to develop and implement proposals for commercial investment, in line with Programme for Government commitments in Energy, Water and Broadband. Streamlined and restructured semi-States will make significant additional

²⁷ The cost of financing these cash balances is charged annually to the GGB. Using the average cost of interest on the national debt of 4.9%, this suggests an annual charge in the region of €1bn to maintain these cash balances. The marginal cost of maintaining these cash balances may be far less, however, if they consist of short maturity treasury bills that are rolled over on a constant basis.

investments over the next four years in ‘next generation’ infrastructures in the energy, broadband, forestry and water sectors.”

In March 2012, the Department of Public Expenditure and Reform issued a Protocol on Meetings with Market Participants / Advisers in the context of the Government’s announcement on the disposal of State Assets. To date, however, NewERA has not published a strategic investment plan setting out how the CSSBs’ investment activities can complement those set out in the Medium Term Exchequer Framework. Neither has it been made clear how conflicts between the body’s dual mandates – managing asset disposal and coordinating investment – can be managed. When disposing of shareholdings, achieving the maximum return to the exchequer will likely be a core priority. This means making the asset as attractive as possible to potential buyers. A CSSB embarking on a long-term capital investment programme during or immediately before its disposal may not be consistent with the shorter-term aim of securing the maximum possible price for the asset. While there is much scope for Ireland’s CSSBs to complement exchequer financed capital investment, it is not clear that the institutional framework as constructed is conducive to maximising this potential.

Privatisation

One way to finance public investment is to offset such one-off capital expenditures with one-off capital receipts, such as by disposing of state assets. In the 2011 Programme for Government, the Fine Gael / Labour coalition committed to a €2bn privatisation programme. As Ireland was then, and continues to be, in receipt of external financial assistance, and therefore under the supervision of the ‘troika’, agreement was required for the use of any such funds for purposes other than the paying down of debt. The government secured troika agreement on the allocation of 50% of all receipts from privatisation to new capital investment with the remaining 50% being allocated to debt reduction.

In 2011²⁸, the Review Group on State Assets and Liabilities, chaired by economist Colm McCarthy, published its report on the readiness and appropriateness of tangible and intangible assets for privatisation. While valuations on individual assets were not included in the report, assets with an aggregate value of €5bn were deemed worthy of privatisation.

In January 2013, the state disposed of Irish Life²⁹ to a Canadian insurance company for €1.3bn, and €1bn of contingent convertible bonds in Bank of Ireland, implying the availability of a further €1.15bn for new capital investment. Already, the government has earmarked receipts from the eventual sale of the National Lottery to capital investment in the National Children’s Hospital. At this stage, the harvesting rights for state forests owned by Coillte and Bord Gáis appear to be the most advanced in terms of preparation for disposal. It is also envisaged that the

²⁸ Although published in April 2011, the report was prepared in 2010, before the state resorted to financial assistance from the EU-IMF.

²⁹ Irish Life is an insurance company acquired by government after the nationalization of Permanent-TSB, the banc-assurer of which it was part. As such, it fell outside the scope of the Review Group’s report.

NPRF will dispose of its holdings in the Irish banks over the long term as Ireland's – and Europe's – financial system normalizes.

Alternatively, or in addition, the financial assets of the discretionary portfolio of the NPRF, worth €6.4bn at end-March 2012 (NPRF, 2013), could be liquidated to finance capital investment. The latter, however, would have to be considered by Eurostat to be 'invested' on a commercial basis rather than 'spent'³⁰, necessitating the use or creation of an appropriate investment vehicle. The establishment of such a vehicle, however, is no guarantee that Eurostat will treat it as such. In practice, such arrangements are negotiated with Eurostat ex ante on a case-by-case basis. Otherwise, the use of NPRF funds for capital expenditure could be counted as part of the General Government Deficit, deepening the challenge of achieving the targeted deficit-to-GDP ratio of under 3% by 2015.

Public Private Partnerships (PPPs)

In recent decades, governments have increasingly sought to mobilise private sector investment in infrastructure. While many have claimed that PPPs are more cost-effective and more efficiently delivered than infrastructure delivered under the traditional public procurement model, and that risk is transferred at least in part to the private sector partner, one of the strongest arguments in their favour is undoubtedly their impact on fiscal balances. By smoothing out government payments over a number of years, avoiding inclusion of a large up-front lump sum in the General Government Balance as would be the case with the traditional procurement model. Some have argued that the current government accounting treatment is inappropriate and that the present value of the PPP contract should be considered as government capital expenditure regardless of the PPP's risk of failure, and government debt should be increased by the same amount (Engel, Fischer and Galetovic, 2010). This is an ongoing debate, and it cannot be excluded that Eurostat rules will evolve in this respect.

PPPs come in many forms, but two of the most common include:

1. Government signs a contract with one or more private sector partners to pay for services or use of infrastructure for a limited period of time. The private sector operator or consortium will thus design, build, operate and sometimes finance the facility. Payments are typically made on an 'availability' basis, i.e. payments are only made once the project has been completed and is available for use. Such a contract will often involve a commitment by the private sector operator to provide certain ancillary services, such as maintenance, during the period of the contract, upon the expiry of which ownership reverts to government.

³⁰ This distinction was made, for instance, between the 'investment' of €20.7bn of NPRF funds in the pillar banks and the 'spending' of an initial €4bn bailing out Anglo Irish Bank. As there was clearly no hope for a commercial return from the latter, it was counted against the general government balance whereas the former, from which a return is anticipated, was classified as an 'investment'. By contrast the transfer of some €6bn from the exchequer to the NPRF from 2009 onwards to facilitate those 'directed investments' into the pillar banks would have counted against the general government balance.

2. Government participates as an investor in the project alongside private sector partners. For each project, a Special Purpose Vehicle is typically created, modelled on the corporate structure of a private sector firm with equity, (sometimes) subordinated debt, and senior debt. If the project fails financially, losses are apportioned in the manner expected in a typical private sector entity: first the equity holder, then subordinated bondholders, and finally senior unsecured creditors and bondholders on a *pari passu* basis. By assuming all or most of the equity slice, the government essentially assumes the 'first loss' risk for the project.

There is an extensive literature that looks at the cost-effectiveness of PPPs, and Private Finance Initiatives (PFIs) in the UK. Hall (2008) provides a comprehensive summary of three reports on PPPs in Europe, arguing that i) there are viable alternatives to PPPs; ii) PPPs can cost as much or more than traditional or other forms of procurement; iii) the transfer of risk to the private sector may not take place, and may entail significant costs if it does; and iv) the private sector is not intrinsically superior at delivering quality goods and services on time and on budget. Reeves (2011) conducted a study of the application of Value for Money (VFM) appraisal procedures to PPP procurement projects in the Irish water services sector. Given that the authorities consider strongly that PPPs are the preferred model of procurement, however, he finds that VFM assessments or preliminary reports were often rejected where they concluded that traditional procurement was more appropriate. Reeves also notes international evidence, for instance the findings of the UK's Commission on PPPs:

PPPs are sometimes 'the only game in town'. Much of the antagonism towards PPPs is the result of widespread and at times justified suspicion that PPPs are still being used simply to get public investment 'off-balance sheet'. Worse still, the desire to press ahead with PPPs for these reasons has sometimes led to short cuts being taken in relation to accountability and value for money procedures (UK Commission on PPPs, 2001, p. 19 in Reeves, 2011).

Typically, the private sector cannot raise finance more cheaply than sovereigns, implying a sometimes substantial 'PPP premium' (Engel, Fischer and Galetovic, 2010). By comparison with traditional public procurement, PPPs make much greater use of 'turnkey contracts', where no payments are made before the project is completed and ready for use. This transfers construction risk to the private sector, but can also lead to higher costs. A European Investment Bank (2006) study found that roads procured across Europe through PPPs were, on average, 24% more expensive than those procured in the traditional manner. Finally, the cost to the public of a PPP contract can increase beyond that initially envisaged in the case of post hoc renegotiation. In the UK, for example, renegotiations occurred in 33% of PFI projects signed between 2004 and 2006. The changes amounted to a value of over \$4m per project per year, equivalent to about 17% of the value of the project" (Iossa and Martimort, 2011). An example of this practice in Ireland was the renegotiation of the cost of the N6 Galway – Ballinasloe PPP scheme in 2011, which added 4.4% to the cost of the scheme (C&AG, 2012).

The Comptroller and Auditor General (2012) has recommended that VFM studies specifically related to the Limerick Tunnel and Clonee-Kells road projects be re-evaluated with a view to drawing lessons for future projects. He further recommends that VFM evaluations be published as a matter of course.

Whether PPPs are ultimately a more cost-effective model for delivering infrastructure will likely depend on the design of the PPP contract. In Ireland, for example, the construction of the original M50 tolled motorway in Dublin under a PPP model, while important and welcome when it opened in 1990 at a time when government finances were under severe pressure, would eventually cost the state far in excess of the initial outlay on construction. Initially constructed by concessioner National Toll Roads at a cost of €58m between 1987 and 1990, and having generated toll income between 1990 and 2008, the government would ultimately decide to buy out the contract for €50m for each year remaining on the original contract out to 2020. It has been estimated that NTR will have generated revenues of €1.15bn over the 30 year duration of the contract (e.g. Irish Independent, February 1st 2010).

In the Irish context, PPPs have been used to deliver a wide range of infrastructure projects, including roads, schools, courthouses and the National Convention Centre. Extensive use of PPPs is underway and foreseen to underpin the school-building programme, with three 'bundles' of schools planned. The Comptroller and Auditor General (2012) estimated in his 2011 Annual Report that some €4.029bn had been committed to 37 PPP contracts by the end of that year, although only €390m in payments were made in respect of those projects during the course of 2011. €1.952bn had been paid in respect of these projects prior to 2011, meaning that their total estimated cost would ultimately come to €6.4bn, a not insignificant amount equating to some 4% of that year's GDP.

The National Development Finance Agency is a unit of the National Treasury Management Agency established in 2003 to "advise State Authorities on the optimal financing of priority public investment projects by applying commercial standards in evaluating financial risks and costs"³¹. In 2005, the NDFA's remit was extended to incorporate a 'specialised procurement delivery function', establishing a PPP 'Centre of Expertise'. As such, it is a valuable repository of knowledge on infrastructure procurement models with an important role in ensuring the taxpayer gets maximum value for money when it procures infrastructure. At a European level, the NDFA and government can also rely on the European PPP Expertise Centre, housed within the European Investment Bank.

When credit markets seized up in 2008, private sector financing for PPPs also became more scarce (e.g. Wagenvoort, de Nicola and Kappeler, 2010)). The market for monoline cash-flow insurance also largely disappeared, reducing the range of opportunities for hedging against the risk of financing infrastructure projects. Although a degree of normality has returned to credit markets, they have not fully recovered. This means that credit constraints preclude private sector partners from raising the necessary debt finance at an acceptable rate of interest and thus from participating in PPPs to the extent that was possible prior to 2008. Furthermore, some countries in peripheral Europe face particular macroeconomic and financial sector challenges that both increase the inherent risk in private sector infrastructure investments

³¹ Source: www.ndfa.ie

undertaken there and distort financial intermediation so that long-term financing in these jurisdictions may be particularly challenging or expensive.

Infrastructure Bonds and Pension Funds

In essence, infrastructure bonds already exist as investment instruments, a sub-set of the corporate bond market. Although they display certain idiosyncratic characteristics, when compared to standard corporate bonds, it is arguable whether they can be considered to be a separate asset class (EIB, 2010). Inderst (2009) gives a broad overview of infrastructure as an asset class, issues relevant to pension fund investors, and policy options. Similarly, so-called 'green bonds', or 'green infrastructure bonds' can be considered to be a further sub-set, one which is dedicated specifically to environment enhancing projects such as low-carbon infrastructure or off-shore wind-turbines. Examples from the US include Clean Renewable Energy Bonds (CREBs) and Property Assessed Clean Energy (PACE) bonds. Mac Flynn (2013) cites these as examples that could be applied in a UK, and particularly Northern Irish, context.

When an SPV is set up for the purpose of a specific PPP infrastructure project, for instance, any senior or subordinated bonds issued on the corporate bond market to finance the project can be considered to be infrastructure bonds. For reasons outlined above, such investments can be a risky proposition, while the secondary market for such bonds is not as liquid as that of sovereigns or large corporates, thereby further reducing their attractiveness.

Pension funds and other 'real money' investors (i.e. not hedge funds or short-term speculators) may face restrictions on the type of bonds they can invest in. They may, for instance, be restricted to highly rated investment grade bonds. Without financial incentives or risk sharing arrangements, such investors are also typically less willing to invest in infrastructure during the more risky 'design & build' stage, preferring to invest during the post-completion phase when stable, secure cash flows are more assured. Unless the risk profile for these infrastructure bonds can be improved, the pool of potential private sector investors may be limited. In the past, Irish pension funds have signalled a willingness to finance infrastructure projects in this manner³². In a recent speech to the Irish Life and Pension Industry conference, Finance Minister Michael Noonan (2013) is reported to have said that "the NTMA, through its various bodies, and the industry are developing products to facilitate this". Indeed, the California Public Employees' Retirement System (CalPERS) is a good example of pension fund investments in infrastructure projects. CalPERS, for example, earmarked \$800m for investment in US infrastructure not only to maximize returns for members, but to create jobs and support "essential community services that are crucial to continued economic development." (CalPERS, 2011)

Mark Wiseman, President and CEO of the Canadian Pension Plan Investment Board, in a recent interview with McKinsey & Co. (2013), laid out from the long-term investors' perspective some of the opportunities and challenges currently facing government experiencing both fiscal constraints and infrastructure deficits: "as the manager of the reserve fund for Canada's

³² In 2009, for instance, representatives of the pension industry indicated that they may be in a position to make up to €6bn available for investment in infrastructure projects.

national pension plan, we're looking to be able to fund pensions 25, 50, 75 years out. What we're looking for is boring, predictable, long-term cash flows. And so the more seasoned the asset is, the more interesting it becomes to us, the more we're willing to pay, and the better the alignment of interest.... when we buy an asset, we assume that we will hold it indefinitely or until the end of the concession." As well as highlighting the importance of a consistent and predictable regulatory framework, Wiseman added that "...governments have to be focused on trying to reduce that idiosyncratic risk by the nature of the concessions and the nature of the regulatory environment, as much as they can. There's a tremendous amount of capital right now that's interested in investing. So it's not a question of there not being a supply of capital. The question is, "Can you, in your jurisdiction, compete for that capital effectively by reducing that idiosyncratic risk?"

Essentially, infrastructure investors are faced with a time-consistency problem. They make an up-front, long-term investment, the financial returns from which may depend not only on the risk that a toll road, for instance, will not generate projected traffic volumes, but on decisions that a different government might make in the future. An example of such idiosyncratic risk would be the possibility that a future government may simply decide to default on availability payments, alter the competitive landscape through regulation or legislation, or fail to build supporting infrastructure – like link-roads – that was promised at the time of the investment.

While wholesale bonds, requiring very large financial commitments in order to participate as an investor, thus limiting the investor pool to institutional investors, have long been a feature of the corporate bond market, recent efforts have been made to develop infrastructure bonds appropriate to small-time retail investors. Not only could retail infrastructure bonds expand the pool of potential investors, opening up participation to individual citizens, but they could also allow for the financing of smaller projects that may not have been of sufficient size to justify financing on the wholesale debt market. Ian Dixon (2012) of Investec, the investment firm, notes that "a retail bond is a little-known debt product that has already delivered funding for an infrastructure asset, and the timely arrival of the retail bond market in the UK has added a new and alternative source of funding for certain types of infrastructure assets". The retail bond market, and the infrastructure sub-segment of it, is still a fledgling market, and replicating such a market in Ireland would not likely be successful due to its small size, but it may be possible to tap the UK retail bond market to finance Irish infrastructure assets.

In the 2013 Finance Bill, the government introduced a legal framework to govern Real Estate Investment Trusts (REITs) for the first time. According to the Minister for Finance, Michael Noonan (2013) "The primary objective of REITs is to facilitate the attraction of foreign investment capital to the Irish property market, but they also have a very real role to play in offering a lower risk property investment alternative for the pension savings of Irish investors." The remit of REITs could be expanded to include collective investment in infrastructure projects – so called I-REITs – which have been described by consultants Deloitte (2010) as 'the next investment frontier'. These could offer an interesting alternative to institutional and retail investors looking for investments with a long-term maturity profile aligned with their needs for pension provision.

Credit Enhancements

Even when credit was more plentiful, private sector partners still faced difficulties in raising the necessary finance given the long-term nature of the investment and their inherent risk. For the same reason that private firms may be reluctant to take on projects given uncertainty over the risk-reward ratio, so were their financiers. In order to reduce the risk of lending to infrastructure-centred SPVs, authorities may introduce credit enhancement mechanisms, thereby improving the credit rating that such debt attracts, and opening the investment up to a wider investor base. Many pension funds, for instance, are restricted to holding very highly rated corporate bonds.

One way to make senior debt less risky is to introduce 'loss absorbers' such as subordinated debt or equity. Government taking a substantial slice of the equity is one way to accomplish this that, as explained above, is common practice in many PPP models. Another approach is to provide an official and explicit guarantee to the debt tranches. In a sense, the authorities are 'lending' their high credit rating to the SPV. If this 'insurance' or 'credit enhancement' is remunerated by the SPV on a cost recovery basis, there may be no net cost to the guaranteeing institution if the project proves to be a financial success.

One successful example of such a credit enhancement is the Trans-European Network (Transport) Loan Guarantee instrument (the LGTT) designed by the EU Commission and managed by the European Investment Bank. By 2011, the LGTT had supported total capital investment of €10bn in six transport projects designated as part of the EU's Trans-European Networks (EIB, 2011). These projects were deemed particularly susceptible to 'ramping up' risk, i.e. the post-completion period during which infrastructure usage, and thus revenues, were 'ramping up' towards full capacity. It was foreseen that the LGTT would form an integral part of the Europe 2020 Project Bond initiative. In return for a fee, the EIB used its AAA-rating to guarantee the 'mezzanine' or subordinated debt of the SPV during a 7 year post-completion 'ramping up' period. By guaranteeing this subordinated debt, the LGTT could support and catalyse a significant amount of highly-rated senior debt on the back of a relatively modest outlay by improving the credit rating of the SPV's senior debt. €1bn of capital committed by the EIB and EU Commission was expected to be able to support the issuance of €5bn in mezzanine financing, thus underpinning the issuance of €20-40bn of private sector senior debt by 2013. The EIB (2011) estimated that this multiplier effect could reach a factor of 80 or more.

Applied in an Irish context, such a guarantee instrument could theoretically be used to catalyse private sector investment in infrastructure projects, providing highly rated fixed income bonds in which, for instance but not uniquely, Irish pension funds could invest. Given that the added value of such guarantees rests on the 'lending' of the credit rating of a highly rated sovereign or institutions, Ireland would either need to wait until its sovereign rating improved or create an over-capitalized institution capable of attracting a high rating. It should also be recognised that, as with any 'guarantee', the absence of an up-front payment does not mean that it is cost-free. Indeed, such guarantees entail significant contingent liabilities for the state.

European Funds

Since joining the then European Economic Community in 1972, Ireland has been one of the largest per capita recipients of European Regional Development Funds, or 'structural funds'. As Irish living standards converged with European norms, and as the EU expanded to 27 members, many of which are now poorer than Ireland, its share of ERDF naturally diminished. The EU budget, or Multi-annual Financial Framework 2014-2020 has recently been agreed at EU Council level, but its final shape will not be known until it has been amended and approved by the European Parliament. Ireland's share of the ERDF, the overall envelope for which may itself be reduced³³, will likely be further diminished. The North and West of the country in particular, having a lower per capita GDP than the South, East and Dublin, will still likely be a beneficiary of structural funds. These funds can be channelled into infrastructure projects, such as completion of the 'Atlantic Corridor' road network. There may be scope, moreover to channel a portion of Ireland's ERDF receipts to the support of access to finance for SMEs, notably through the establishment of an SME fund, perhaps on a regional or even cross-border basis, in collaboration with the European Investment Fund³⁴.

The European Investment Bank itself has a strong track record of supporting infrastructure investments in Ireland, loaning €505m to support Irish projects in 2012, with €600m foreseen for 2013 (Irish Independent, February 26th 2013). Currently at the planning stage are three Irish projects in which the EIB will co-invest or provide financial assistance: school building, infrastructure for Irish Water, and subsidized loans to SMEs and 'mid-cap' enterprises through AIB. The EIB announced in January 2013, for instance, the provision of €200m "to support improvements in Ireland's Water Services Investment Programme (WSIP) by financing 23 projects" around the country. The latter, for instance, is expected to support 1,600 jobs. It is also understood that the EIB has entered discussions on the possibility of part-financing PPP projects for the N17 roadworks, the University of Limerick, and potentially DIT's Grangegorman campus (Irish Independent, 2nd May 2013).

In 2012, the EIB and EU Commission launched the pilot phase of their Europe 2020 Project Bond initiative with the aim of stimulating private sector investment in large, commercially viable transport, energy and broadband infrastructure projects³⁵. The initiative also aims to develop capital markets capable of financing European infrastructure projects. Rather than providing loans directly, the EIB will offer credit enhancements, such as the LGTT mentioned

³³ According to the EU Commission's proposed multi-annual financial framework, approved by the EU Council, some €325bn was foreseen for 'Economic, Social and Territorial Cohesion' over the 7 year period (pg 11, http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/135344.pdf).

³⁴ The European Investment Fund is the SME financing arm of the EIB Group. It uses the funds that it is mandated to manage by the EU Commission, EIB and others, as well as its own resources, to invest in venture capital funds and to provide credit enhancements and loan guarantees to banks engaged in SME lending. It manages the Joint European Resources for Micro to Medium Enterprises (JEREMIE), whereby ERDF funds are used, in addition to the Member State's own financial contribution, to establish a revolving (i.e. with the aim of being financially self-sustaining) 'holding fund' to target improved access to finance for MSMEs through the use of venture capital and credit enhancement instruments.

³⁵ Eligible projects include Transport and Energy infrastructure designated as 'Trans-European Networks' and investments in broadband infrastructure deemed eligible under the EU's Competitiveness and Innovation Programme.

above, aimed at raising the credit rating – and thus the attractiveness for investors – of the so-called ‘project bonds’. Investors can also invest safe in the knowledge that the EIB has carried out due diligence to ascertain the commercial viability of each project and will continue to monitor the project’s implementation on an ongoing basis. €230m has been allocated to this initiative during the 2012-2013 pilot phase, and this is expected to mobilise private sector investments of some €4.6bn during this period.

There is clearly scope for EIB co-investment in Irish infrastructure projects both now and in the future. EIB funds can be used to complement Irish public funding and catalyse private sector involvement in projects.

A hybrid model: the Regulated Asset Base

Helm (2010) poses the following question: “Having identified the roles of the state and the private sector, and having considered how to allocate the equity risk between taxpayers, customers and shareholders, how, then, might the regulatory framework be designed to enable private finance to be efficiently provided and hence, to facilitate the large-scale infrastructure investment now required?” His answer is to propose a hybrid model, what he calls the Regulated Asset Base (RAB). Essentially, this is a form of PPP structured so as to align as efficiently as possible the risks and rewards inherent in infrastructure projects. It reduces ‘equity risk’ to a minimum, ensuring it is shared appropriately, and at the appropriate time, between public and private sector participants, allowing for the maximum possible share of projects to be financed through standard debt instruments. In essence, the RAB provides “a contractual guarantee to the sunk costs, and it provides an equity exit for investors. This is represented by refinancing.” (Helm, 2010)

As is typically the case with PPPs, the initial stages of an infrastructure project structured as an RAB is financed through equity and project finance. Conceivably, the public-private split of the financing burden at this stage could be anywhere on the 0-100% spectrum, reflecting the degree to which construction risk – i.e. that the project will be completed on time and within budget – is borne by the public and private sectors respectively. Helm points out that “Up to completion, the possibility of excess returns is core to the incentives to out-perform on the costs side”, meaning that the more construction risk is transferred to the private sector, the greater is the incentive for them to keep costs down.

The important element of the RAB is that once construction is complete, any loss or gain due to this construction risk is crystallised. The now operational project is ring-fenced into an independently regulated, stand-alone vehicle with both principal and return guaranteed, and financed entirely through the debt markets, for instance through what could be termed infrastructure bonds. In this manner, “the completed project is ‘bought’ by the RAB at the agreed efficient price. Once inside the RAB structure, there is no additional requirement on management to do anything to maintain what is a financial number (the agreed “purchase” price).” (Helm, 2010)

Helm goes on to explain how the RAB model could be implemented through a new institution – he uses the example of the UK’s Green Investment Bank and the financing of wind farms – acting as an intermediary by effectively committing to ‘buy’ the project upon completion, ring-fence it

within an RAB structure, and then re-finance the large sunk costs by selling them “to pension, life and other investors interested in longer term low-risk bond-type investments.” (Helm, 2010) Responsibility for operating the asset, in this case a wind farm, could either rest with a state entity or be sold to investors willing to take on the operational – or ‘equity’ – risks and associated rewards. Political and regulatory risks to a private sector operator can be minimized by means of a government commitment to introducing grandfathering arrangements in the event that future regulatory or policy changes were to have a detrimental impact on the RAB.

In the model outlined above, the institution – i.e. the Green Investment Bank in Helm’s example – playing the role of intermediary would require little in the way of capital:

“In practice, the transactions may involve timing issues and elements of bundling, and the infrastructure bank may need to hold assets for short periods on its balance sheet. But it would not involve itself in equity finance or leverage and hence would not resemble an investment bank or indeed a direct investor. This is not a project finance role. In times of major fiscal constraints, the fact that an infrastructure bank would need little or no capital is a distinct advantage.” (Helm, 2010)

State Development and Investment Banks

Aimed at correcting market failures in the financing of businesses and infrastructure projects, state investment and development banks have a rich history and well-established track record at regional, national and international levels, the EIB discussed above itself being an interesting model. The next section will explore some examples in more detail.

7. The Case for a Strategic Investment Bank

Co-chaired by esteemed economists Tim Besley and John Van Reenen, and including Nobel Laureate Chris Pissarides amongst its membership, the London School of Economics launched a 'Growth Commission' to elaborate a long-term growth strategy for the UK. The Commission's recently published (2013) report identifies three key elements for such a growth strategy: skills, infrastructure and innovation. Although aimed at a UK audience, many of its conclusions and recommendations are also relevant in an Irish context. Having identified financing as a critical obstacle to delivering the world-class infrastructure and innovation-driven economy needs, the rationale for their proposal for an Infrastructure Bank is worth quoting at some length:

"An Infrastructure Bank (IB) [would] facilitate the provision of stable, long-term, predictable, mostly private sector finance for infrastructure. There are good theoretical reasons for the creation of such a bank: it can help to overcome key market failures in capital markets in a direct and constructive way. In particular, it can help to reduce policy risk and, through partnerships, to structure finance in a way that mitigates and shares risk efficiently. This will require a whole range of financial instruments including equity and structured guarantees. There are good practical examples that show the advantages of a bank with this sort of mandate, such as Brazil's BNDES, Germany's KfW, the European Bank for Reconstruction and Development and to some extent the European Investment Bank. The IB would develop banking and sector-specific skills in new and important areas. It would use its special ability to make investments that could then provide powerful examples with catalytic effects on private investment through its partnerships. It could have a very strong multiplicative impact so that its investments have effects much larger than the amount of capital it puts in. The IB would be governed by an independent board with a clearly defined mandate and access to capital markets."

The Growth Commission envisaged a bank capitalised with £20bn that, with a conservative leverage ratio of 2.5 in line with best international practice, could conceivably support financial commitments totalling £50bn, and ultimately catalysing infrastructure investments by the private sector of a multiple of this number. Given Ireland's fiscal constraints and infrastructure deficit, this rationale is as applicable in an Irish as in a UK context, albeit on a smaller scale. Some long-standing international examples of existing and proposed state banks are worth examining in detail:

United Kingdom

In 2012, following state-aid approval from the EU Commission, the UK launched a Green Investment Bank (GIB) (Department of Business, Innovation and Skills, 2012) to 'provide financial solutions to accelerate private sector investment in the green economy'. The first such institution in the world, it was capitalized with £3bn and set up as an independent, arm's length entity under the UK's Companies Act in 2012. It aims to catalyse substantial private sector investment in green infrastructure. The GIB has a 'double bottom line' to make financial returns and have a green impact by investing in green infrastructure such as offshore wind, waste, energy efficiency. As the GIB builds up to become fully operational, including full borrowing

powers by 2015, it will be preceded by direct investments made by the state, the UK Green Investments (UKGI) scheme, projects which could then be transferred to the GIB.

In late 2012, UK Business Secretary, Vince Cable, unveiled plans for a £1bn 'business bank' to improve SMEs' access to finance. The proposed business bank would use a combination of equity investments and loan guarantees to stimulate further private sector SME lending that would not otherwise have taken place. It is envisaged, therefore, to operate like the European Investment Fund. It is hoped that an initial £1bn investment could support additional SME financing of £10bn. The announcement was welcomed by the British Chambers of Commerce, the Confederation of British Industry, and the Trade Union Congress, although they called for a greater financial commitment to the project. The advisory board for the business bank was appointed in January 2013, and guidelines for implementation were expected later in 2013.

Germany

Kreditanstalt für Wiederaufbau (KfW) was founded as a 'promotional bank' in 1948 to support the reconstruction of Germany after the devastation of WWII. Its remit has since broadened to cover housing, SME funding, environmental finance, project and export finance, and the financing of projects in developing countries.

KfW is 80% owned by the German federal government with the remaining 20% held the German state governments. In 2010, KfW committed €81.4bn in funding as part of Germany's economic stimulus plan. New operations were scaled back to €70.4bn in 2011, a third of which was dedicated to climate and environmental protection projects. By end-2011, KfW had nearly €500bn in assets under management, making it one of the largest banks in Germany, while it made a profit that year of over €2bn.

KfW played a central role in the fiscal stimulus package introduced by Germany in 2009, being tasked with providing €15bn in new lending to SMEs.

USA

In 2007, a National Infrastructure Reinvestment Bank was proposed by Senators Jim Dodd and Chuck Hagel. Although a similar idea has since been championed by President Obama and Senator – now Secretary of State – John Kerry – and Senators Kay Bailey and Mark Warner, there has not been sufficient bi-partisan support in Congress to see the proposal realised. The Centre for American Progress (Miller, Costa and Cooper, 2012) has sketched out what such a bank might look like. Drawing on an array of proposals for a US infrastructure bank, they envisaged a wholly government owned corporation that would offer long-term loans and loan guarantees for up to 35 years. Projects could be PPPs, or executed by state and local governments and the infrastructure bank would be a co-investor with participation capped at 50% of the total project value.

President Barack Obama used his 2013 State of the Union speech to flag a number of initiatives designed to rebuild American infrastructure. He has since reiterated (e.g. The Guardian, 29th March 2013) his calls for the establishment of a National Infrastructure Bank, initially capitalized with \$10bn.

France

In November 2008, the French government established a €20bn Strategic Investment Fund (SIF) in response to the evolving global financial crisis. The fund's aim was to take minority equity stakes in strategically important French firms to reinforce their balance sheets and ensure financial stability. Then President Sarkozy, a long-time advocate of 'national champions', envisaged a fund that would ensure French industry remained strong, and under French ownership. The SIF was 49% owned by the French government, the remainder of its equity held by Caisse de Dépôts, a long-established government-owned financial institution tasked with long-term investment, and with which the SIF's accounts are consolidated. It comprised a Board of Directors and 13 senior managers. The SIF operates on a fully commercial basis, seeking a market rate of return on its investments. As its name would suggest, it focuses on firms that are deemed strategically important to the French economy in terms of growth and competitiveness. Over the 2009-2011 period, the SIF invested €7.1bn in more than 1,800 businesses, comprising 1m employees.

When seeking election to the Presidency in 2012, François Hollande included in his manifesto a commitment to establish a Public Investment Bank. After having assumed the Presidency, his government announced in October 2012 the establishment of such an entity, BPI France, putting it on a legal footing in December 2012. Modeled on Germany's KfW, BPI subsumed not only the above-mentioned SIF, but also CDC Enterprises, FSI Régions, and Oséo, state-run SME-financing institutions established in 1816, 1984 and 2005 respectively. BPI is 50% owned by the state and 50% by state-owned Caisse de Dépôts (BPI France, 2013). Its 13 member board consists of a Chairman, the Director General, four government representatives, three representatives of CDC, and two independent experts (Caisse de Dépôts, 2013). The institution has a strong regional presence, not least due to the legacy networks of Oséo FSI Régions, with 38 offices and some 2,000 employees throughout the country. It is characterised, moreover, by a large degree (90%) of decentralised decision-making. In its first quarter of activity, Q1 2013, BPI committed €630m of funds to the support of French SMEs, which in turn supported €1.7bn in loan guarantees, co-financing of €1.63bn, direct start-up loans of €54.9m, and zero interest 'innovation loans' of €193m (BPI France, 2013). In total, BPI can draw on its own resources totalling €20bn (Caisse de Dépôts, 2013).

Re-examining the Labour Party's proposal for a Strategic Investment Bank

Prior to the 2011 election, the Labour Party proposed the establishment of a Strategic Investment Bank (SIB) to 'finance Ireland's investment economy'. Recognizing Ireland's fiscal constraints, high unemployment and declining investment rate, the SIB was conceived to support investment in a wide range of infrastructure projects and to improve access to finance for SMEs. In essence, this parallels the long-standing division of Labour within the EIB Group, where the EIF is the dedicated SME financing arm. The SIB, however, was to be most closely modelled on Germany's KfW as well as Ireland's own Industrial Credit Corporation and Agricultural Credit Corporation, neither of which is still in existence. It was envisaged that the SIB would draw on EIB funding and would use a range of financial instruments. The SIB was to become an important player in delivering infrastructure projects in Ireland, using its capacity to borrow at lower rates than the private sector to make more projects commercially viable, thereby catalysing private investment.

In terms of organisational structure, the SIB was to be a ‘commercially-focused and independent Semi-State Company’ (Labour Party, 2010), operating in its initial phase under a government guarantee that would be gradually reduced to comply with EU state-aid rules. While wholly government owned it was to operate on a commercial basis and ‘at arms length’ from government in such a manner that it would be considered by EUROSTAT to be outside the general government sector. Operational and investment decisions were hence to be made solely by the SIB’s Board and management, without Ministerial interference. One critical advantage of this structure was that SIB borrowings and investments would not be counted against the General Government Balance, meaning there would be no direct impact on Ireland’s fiscal consolidation trajectory. The SIB was to be capitalized initially with a €2bn investment from the discretionary portfolio of the National Pension Reserve Fund. It was expected that this initial investment could eventually support some €20bn of infrastructure and SME investments. Finally, it was envisaged that the SIB would be implemented in two phases, initially as a dedicated Fund that would channel money from the NPRF into initial investments. As market conditions improved, this Fund was to be developed into a fully-fledged SIB, as outlined above.

Stepping-stones in place

The 2011 Programme for Government contains a commitment to “create a Strategic Investment Bank that will become a provider of finance to large capital projects, a conduit for venture capital and a lender to SMEs”. In late 2011, the government launched NewERA and a Structural Investment Fund (SIF), the latter of which was to be “the forerunner of the Strategic Investment Bank”, according to Brendan Howlin, Minister for Public Expenditure and Reform. The Strategic Investment Fund could therefore be considered to be phase one of the SIB, as outlined above and in Labour’s pre-election proposal. €250m was to be initially allocated to the SIF with a view to mobilizing a further €750m in private sector investment. In the interim, the SIF has made no investments and has not managed to secure financing commitments from the private sector. Moreover, the National Pension Reserve Fund Act has not yet been amended to allow for the necessary changes to the NPRF’s investment mandate.

The National Pension Reserve Fund Commission announced the establishment of a further Fund – the Irish Infrastructure Fund (IIF) – which is to be a tri-partite investment collaboration between the NPRF, AMP Capital (an Australian infrastructure management company which will make investment decisions for the IIF as well as being responsible for global fundraising) and Irish Life Investment Managers (an important investment manager in the Irish market which will manage the IIF and provide administrative support as well as taking responsibility for fundraising in Ireland). The IIF was to be allocated €250m from the NPRF, with a view to catalysing a further €750m in private sector investment, similar in scope to the SIF. This €1bn fund was in turn expected to adopt a 3-1 leverage ratio, supporting total investments of €3bn. The IIF was to target existing infrastructure assets, owned by both the private and public sectors (Shields, 2012). The IIF made its first investment in 2012, acquiring “a majority stake in a portfolio of wind farms from Viridian Group” (NPRF, 18th June 2012).

At this time, the NPRF stated explicitly that the IIF was “a potential source of new capital for investment in new infrastructure projects in Ireland” (emphasis added). In comments reported in an investor profile on the top1000funds.com website, Eugene O’Callaghan, Investment Director at the NPRF, admitted that finding private sector co-investors for the IIF was proving

difficult. The same profile also reports that the NPRF had begun to liquidate some of its property and private equity assets with a view to directing these funds towards infrastructure investment in Ireland.

It was clearly envisaged that these Funds would act in concert to similar ends. In a speech to the Dail in December 2012, Minister for State, Brian Hayes, said that “the [SIF] has been working closely with NewERA in respect of investment opportunities relating to the commercial semi-State sector.” Moreover, the NPRF (18th June 2012) itself considers the IIF to be an integral part of the SIF / SIB project:

The NPRF’s commitment to the IIF is part of the development of the Strategic Investment Fund which will comprise a number of funds focused on sectors of strategic importance to the Irish economy including infrastructure, financing for SMEs and venture capital. The NPRF, as a commercial and cornerstone minority investor in these funds, will act as a catalyst for attracting third-party investors thereby increasing the size of the overall investment in the Irish economy.

To the extent that these funds are not aiming to develop new, ‘Greenfield’ infrastructure assets, they will not add significant value to the Irish economy in terms of growth or employment. Such ‘Brownfield’ infrastructure transactions may, however, have an indirect effect of helping to develop a more liquid secondary market for Irish infrastructure assets. In turn, this may be considered to be a positive development in that it would also create what could be described as (to use the private equity term) an ‘exit opportunity’ for infrastructure concessioners specializing in the Design & Build phase. Such firms may be more likely to engage in a ‘Greenfield’ infrastructure investment if they know that they can sell on the project once the project is up and running. This would be particularly the case where a state entity was providing a credit enhancement or risk-sharing arrangement during the ‘Greenfield’ phase.

The NPRF announced the establishment in early 2013 of three new funds dedicated to Irish SMEs, entailing an overall financial commitment of €500m from the NPRF, supporting investments totalling €850m across the three funds. The €300m SME Equity fund is being managed by Carlyle Cardinal Ireland and “will focus on investing in healthy businesses seeking to grow, including those with overleveraged balance sheets”. The €100m SME Turnaround Fund is being managed by and will co-invest with Better Capital. It “will invest in underperforming businesses which are at or close to the point of insolvency but have the potential for financial and operational restructuring”. The €450m SME Credit Fund “will lend to larger SMEs and mid-size corporates and will be managed by BlueBay Asset Management.” At the time of their launch, the NPRF also stated that they were looking at further opportunities to complement these three funds “with the objective that the eventual suite of funds would have the capacity to invest across the full spectrum of SME financing needs.” These three funds supplement the existing €500m ‘Innovation Fund’, launched in 2010 with €125m in exchequer funding, a further €125m in NPRF funding, and a further €250m in expected private sector co-investment. Its aim was to invest in Venture Capital funds focused on early-stage and high-growth potential businesses, a ‘meaningful proportion’ of which must be invested in Irish firms or firms with significant Irish operations. As of March 2013, the Innovation Fund had committed €86m to five investments.

Avoiding 'Mission Creep'

The National Treasury Management Agency has proved itself to be one of the most successful innovations in the Irish public sector. Over a period of two decades, it managed the national debt, helping bring down the financing costs under Chief Executives Michael Somers and John Corrigan. In fact, it is likely that successive governments have assigned to the NTMA an array of new responsibilities precisely because of, and in order to leverage, its strong reputation. In addition to its core function, the NTMA now manages the NPRF, NAMA, the NDFA, NewERA, and the Small Claims Agency as well as managing the state's shareholdings in the pillar banks through the NPRF. At a time when managing Ireland's re-entry to the sovereign bond markets is of such critical importance, there may be a danger that this broad array of responsibilities could distract from its core function.

Over the medium-to-long term it may be advisable to create a legally and operationally separate entity, namely an institution along the lines of the proposed Strategic Investment Bank, focused solely on infrastructure and SME financing. This would allow for the NTMA's current myriad functions to be carried out in a clear and focused manner, eliminating potential conflicts of interest that may result from cross-holdings of assets³⁶. Ultimately, the institution responsible for managing the national debt should not itself become, or have control over, what is essentially an investment bank, the building blocks for which are now nearly in place.

Establishing a Strategic Investment Bank in Practice

Of utmost urgency is the clarification of the NPRF's investment mandate through amending legislation. Between the 3 SME funds, the Innovation Fund, the SIF and the IIF, €1.125bn – or roughly one sixth – of the NPRF's discretionary portfolio has already been allocated to what could be described as 'phase one' of the Strategic Investment Bank. The Enterprise Ireland commitments of €125m to the Innovation Fund and €90m to the Microenterprise Loan Fund brings this up to €1.34bn. In line with the government commitment to allocate 50% of all asset sales to new capital investment, €650m of the €1.3bn raised from the sale of Irish Life, and €500m of the €1bn raised from the sale of contingent convertible bonds in Bank of Ireland, should be allocated to the SIF during 2013, bringing the total funding allocated to the SIF to €1.4bn, and overall funds dedicated to phase one of the SIB to €2.5bn (i.e. existing NPRF funds of €2.275bn and previously allocated exchequer funding of €215m).

Implementing stage two if the Strategic Investment Bank, as the market environment and Ireland's credit rating improve, and subject to EUROSTAT (GGB impact) and DG COMP (state-aid) approval, could then involve the conversion of this €2bn allocation to equity capital for the new SIB (it would remain therefore an NPRF asset). In line with best international practice, this initial €2.5bn equity could be leveraged through the capital markets at a ratio of 2.5, generating potential assets under management of €6.25bn. In line with the current 3-to-1 'private sector mobilisation' targets for the IIF and SIF, this €6.25bn could be used eventually to mobilise a

³⁶ For instance, in its treasury function the NTMA is responsible for issuing Ireland's sovereign bonds. As the predominant shareholder in AIB, it has indirect control over the management of AIB's portfolio of Irish sovereign bonds.

further €19bn, thus supporting total investment in SME financing and infrastructure of €25bn. From an institutional perspective, it would make sense to leverage the experience and knowledge of the NDFA by making it the core of the infrastructure division of any putative SIB.

Clearly, this is a project that will take a number of years to reach its full capability. In the shorter term, amending the NPRF Act and increasing the total SIF allocation to a minimum of €1.4bn can support capital investment of some €5.6bn by mobilizing €4.2bn of private sector funding. The wider discretionary portfolio of the NPRF, and proposed disposals of state assets, also represent significant resources that could be mobilised in support of these aims in advance of the formal establishment of an SIB, and without the need for a banking license or recourse to the capital markets. Crucially, innovative risk-sharing and credit enhancement arrangements must be explored to improve the alignment of interests between public and private sector interests.

In the aftermath of the financial crisis, the Irish government already owns a great part of the banking system. It should be envisaged that these shareholdings will be disposed of over the long-term, whether transferred to the European Stability Mechanism or sold to the private sector. One could legitimately question the desirability of the government seeking to set up a new credit institution when it already owns several. As evidenced by the proliferation of state development banks in a number of contexts internationally, both long-standing and recent, a financial institution dedicated to support economic development and correcting market failures is an attractive prospect. Like Ireland, the UK government acquired significant stakes in some of its largest banks as a result of the financial crisis. This has not detracted from their efforts to establish not only the Green Investment Bank, but possibly also a Business Bank to support SME lending.

Market failures are present in the financial sector even during more auspicious economic times. SMEs always face greater challenges in accessing finance than larger corporates, even in the most developed financial systems like the US. Innovation-driven start-ups can be particularly badly afflicted given the often intangible nature of their assets. Left to its own devices, the private sector will not provide sufficient public goods like infrastructure. In modern times, this has meant that governments have typically – if not almost exclusively – provided most infrastructure (e.g. EIB, 2010). State development banks are one funding model that has been used to achieve this, notably KfW's role in the reconstruction of Germany after WWII. Green investment – in both environment enhancing infrastructure and green innovation – is also subject to market failures. In some cases, such investment is not commercially viable without government intervention, whether through regulatory action or financial incentives. In others, the technology may be so new that firms face challenges in financing their innovation and commercialisation efforts – as is the case with firms in many high-tech sectors. The persistence of such market failures, even in good times, provides a strong argument for a dedicated financial institution. That financial intermediation is so strained in Ireland at present – and unlikely to improve urgently – only strengthens the argument.

The existing Irish banks, both state-owned and private, will be dealing with the legacy of the financial crisis for many years to come. They will be dealing with impaired loans, asset recovery, and deleveraging for most of the remainder of the current decade. It is unlikely that they will be

in a position to resume their normal economic role of financing investment for some time to come, never mind investing significantly in riskier segments like SMEs, infrastructure or green technology. Setting up a financial institution ab initio, without any legacy from the financial crisis would ensure that at least one institution is in a position to play a full role in supporting Irish investment.

8. Conclusion and Policy Options

Five years have passed since the Irish economy began contracting and since the then government decided to guarantee almost the totality of the banking system's liabilities. The economy has begun growing again, slowly. Unemployment remains unacceptably high and is likely to remain in double digits for much of the remainder of the decade. Financial intermediation in Ireland is broken, and deleveraging is set to continue for some time. Public and private sector investment is at its lowest level in the country's recorded economic history, undermining growth and job creation in the short-term, and productivity in the long-term.

Recognizing the challenges imposed by tight fiscal constraints and still-fragile access to sovereign bond markets, this paper examines some of the traditional and more modern options available to support public and private sector investment. It reviews proposals to establish a Strategic Investment Bank (SIB), following successful and long-standing models in Germany and elsewhere as well as more recent innovations in the UK and France. The government has given a political commitment to establish an SIB, and many of its building blocks are already in place. With investment at such historically weak levels, this paper argues that an SIB is needed now more than ever to support investment in infrastructure and lending to SMEs. This would necessarily be a medium-term project, but a number of steps can be taken in the shorter term to boost investment in the target areas, mobilise private sector participation, and lay the foundations for a robust, sustainable and value-adding institution. The section below therefore sets out a number of policy options, divided into those more appropriate for the short-term, and those necessarily of a more long-term nature.

Short-term Policy Options

- **Establish an Infrastructure Advisory Council.** Currently, the assessment of infrastructure needs is largely ad hoc, uncoordinated, and subject to Ministerial prerogative. Modelled on the Fiscal Advisory Council, a small committee of domestic and international experts should be constituted to provide strategic guidance as to Ireland's long-term infrastructure needs, taking into account demographic trends and structural shifts in the economy. Like the FAC, the IAC would have no executive function. It could draw on the expertise and resources of the National Development Finance Agency and the relevant government Departments. It could also establish and monitor best practices for Value for Money assessments of infrastructure projects, including alternative funding models. Finally, it could advise on changes to the regulatory environment that may facilitate infrastructure investment.
- **Streamline decision-making.** Infrastructure of a strategic nature should be subject to an accelerated decision-making process at political and administrative levels, subject to appropriate provisions for public consultation and appeals. At present, a number of

authorities³⁷ input into planning decisions, sometimes causing the process to be quite lengthy. The Strategic Infrastructure Division of An Bord Pleanála could take the lead, set out the approval timeline and set deadlines for input from other authorities, for public consultation and for possible appeals.

- **Accelerate legislative changes to the NPRF's investment mandate.** For the Strategic Investment Fund and Irish Infrastructure Fund to become fully operative as currently constituted, changes to the NPRF's investment mandate must first be reflected in the relevant legislation, namely the National Pension Reserve Fund and Miscellaneous Provisions Act 2009.
- **Clarify the respective investment mandates of the SIF and IIF.** At present it is unclear how the Strategic Investment Fund and Irish Infrastructure Fund are expected to function and interact. It is not clear, moreover, to what extent either or both will divide their resources between 'Brownfield' and 'Greenfield' infrastructure investments. Given the limited added economic value of the former, a balance in favour of the latter would clearly be desirable. The design of the IIF, in particular, seems more conducive to 'Brownfield' investment. There should be formal clarification of the funds' respective roles, with the SIF perhaps restricted primarily to 'Greenfield' infrastructure projects.
- **Publish a NewERA strategic investment plan.** To date, NewERA appears to be prioritizing its privatisation mandate over its investment mandate. A comprehensive long-term investment plan, setting out the respective contribution of each of the Commercial Semi-State Bodies, would go some way towards redressing this balance. This should necessarily focus on the role of those elements of the CSSBs under NewERA's mandate not being actively considered for privatisation. It should set out quantifiable investment targets, explaining how these complement planned exchequer financed capital investments. Moreover, a clarification of the respective roles and interaction of the SIF, IIF and NewERA could be clarified, for instance through the publication of a Memoranda of Understanding.
- **Strengthen Cooperation with the EIB and EIF.** There is further scope for the European Investment Bank to provide financial support and co-investment for both Irish infrastructure projects and SME lending. Potential should be explored for the establishment of an all-island regional enterprise development fund, in cooperation with the UK government, utilising structural funds allocated under the EU Multiannual Financial Framework 2014-2020. Through the Joint European Resources for Micro to Medium Enterprises (JEREMIE) initiative, a portion of the ERDF allocation could be used to establish a revolving holding fund that would invest in microfinance and SME financing operations using a range of financial instruments. This could work initially in conjunction with the Microenterprise Loan Fund, launched in 2012. It would focus in particular on the Border, Midlands & Western and Northern Ireland regions, given their preponderant allocation of structural funds on the island of Ireland.

³⁷ For example, the Environmental Protection Agency, the Commission for Energy Regulation, and the Health & Safety Authority.

- **Exploit the design of credit enhancements.** Given the inherent risk involved in infrastructure investment, project finance is often difficult to raise for the construction phase. With the disappearance to a large extent of monoline insurance options from the market, it may be necessary for public bodies to look again at the design of credit enhancements that can reduce the risk of and catalyse such financing. The LGTT (Loan Guarantee – Trans-European Network Transport) facility designed by the EU Commission and operated by the European Investment Bank, for instance through its 2020 Project Bond initiative, is one possible model. Such guarantees can be provided on a commercial or cost-recovery basis, ensuring little or no cost to the exchequer. While there is typically little or no up-front cost to such guarantees, they do entail significant contingent liabilities, and may impact on the General Government Balance / Debt, depending on how they are structured. One of the key attractions of mobilising private investment in infrastructure is, of course, to transfer construction risk away from the public sector. The provision of such guarantees would likely reduce this incentive, and this trade-off should be acknowledged.
- **Explore the possibility of applying the Regulated Asset Base model of PPPs to Ireland.** Aligning the risks and rewards associated with infrastructure investments to as to mobilize private sector participation without leaving government finances exposed to excessive risk is a challenging exercise. One approach is the RAB model, which divides infrastructure projects in to two time horizons. The initial stages are financed by equity and project finance. Upon completion, a public sector intermediary essentially ‘buys’ the project at a pre-agreed price, providing an exit opportunity for equity investors, and re-structures it as a stand-alone, ring-fenced vehicle to be sold on to pension funds, insurers or others looking for low risk, long-term bond-like investments. The intermediary acts as facilitator or market maker, taking on little if any long-term financial risk, and therefore requiring little if any start-up capital in its own right.
- **Examine the potential for ‘recovery bonds’ for retail investors.** With savings rates at record lows, bonds typically beyond the capacity of retail investors, volatility in the equity markets, and the willingness of many to play a role in Irish economic recovery, the potential for relatively small denomination ‘recovery bonds’ should be explored. If a listing on the Irish Stock Exchange for such bonds is unfeasible, a listing on the London Stock Exchange may be an alternative with greater potential liquidity and a bigger pool of potential investors. They could be marketed, for instance, through the Irish post-office network and used to finance public procurement of infrastructure, or ultimately an institution dedicated to infrastructure procurement.
- **Expand the mandate of REITs.** Real Estate Investment Trusts were introduced in the 2013 Finance Bill to facilitate collective investment in rental property. Provision should be made to also include infrastructure projects within the scope of the legislation, establishing so-called I-REITs.
- **Publish Value for Money assessments of PPP procurements.** Selected past PPP projects should be subject to post hoc Value for Money audits with a view to drawing lessons on the appropriateness of PPP procurement and for the design of future PPP contracts. These, and VFM assessments for all new PPPs, should be published as a matter of course to ensure maximum transparency.

- **Allocate 50% of the proceeds from the sale of Irish Life and Bank of Ireland CoCo bonds to the Strategic Investment Fund.** In line with the government’s commitment to use 50% of the proceeds from all privatization to fund new capital investment, €650m of the €1.3bn raised from the privatization of Irish Life and €500m of the €1bn should be allocated to the Strategic Investment Fund with a view to supporting appropriate ‘Greenfield’ investments at the earliest opportunity. In addition to the currently allocated €250m, these measures would increase the total size of the SIF to €1.4bn. The wider NPRF discretionary portfolio and future disposals or state assets represent further pools from which funds could be drawn to finance investment in infrastructure and SME lending without negatively impacting on the budget balance.
- **Move towards phase two of the Strategic Investment Bank.** NPRF holdings in the Strategic Investment Fund (€250m), the Irish Infrastructure Fund (€250m), the SME ‘Equity’, ‘Credit’ and ‘Turnaround’ Funds (€500m), and the Innovation Fund (€125m), in addition to the Enterprise Ireland holdings in the Innovation Fund (€125m) and the Microenterprise Loan Fund (€90m) and €1.15bn from the proceeds from the sale of Irish Life and BOI CoCos should be formally designated as SIB funds, totalling €2.5bn. Until the putative SIB had built the institutional capacity to seek out and execute capital investment projects on its own initiative, it would act essentially on a fund-of-funds model.

Existing Funding source	€bn
Strategic Investment Fund (NPRF)	0.25
Irish Infrastructure Fund (NPRF)	0.25
SME ‘Equity’, ‘Credit’ and ‘Turnaround’ Funds (NPRF)	0.5
Innovation Fund (NPRF & Enterprise Ireland)	0.25
Microenterprise Loan Fund (Enterprise Ireland)	0.09
Sale of Irish Life and Bank of Ireland CoCos (NPRF)	1.15
Total SIB capital	2.49

Medium-term Policy Options

Convert designated SIB funds to SIB equity. In due course, the €2.5bn designated for the SIB can be converted into equity with which to capitalise the institution. This equity would remain a commercial asset of the NPRF. In line with best international practice, this initial €2.5bn equity could be leveraged at a ratio of 2.5, generating potential assets of €6.25bn. In line with current targets for the IIF and SIF, this €6.25bn could be used eventually to mobilise a further €19bn, thus supporting total investment in SME financing and infrastructure of €25.25bn.

The NDFA should form the institutional core of the SIB’. In order to leverage the know-how and expertise of the National Development Finance Agency, it should form the nucleus of the SIB’s infrastructure division. Similarly, those at the NTMA and in other authorities responsible for

managing the relevant SME and Innovation funds could form the basis for the SIB's SME division.

Boost the role of Local Enterprise Boards. Information asymmetries are one of the market failures that undermine the ability of SMEs to access the credit they need. Larger corporates are more likely to have published, verifiable accounts, known business models or registered collateral. SMEs, by contrast, are more heterogeneous and often more informal. This increases the difficulty for lenders in assessing credit risk, thereby increasing the cost of SME lending, and reducing its availability. Ireland already has a network of local enterprise boards across the country. These can be a point of contact for local businesses, a point of interaction for local lending officers, a point of referral for the Credit Review Officer, and a source of on-the-ground intelligence for the relevant authorities. Although the SIB would act primarily through financial intermediaries, the Local Enterprise Boards could facilitate an on-the-ground presence across the country. Such a regional presence could draw inspiration from that of BPI France.

Consult with Eurostat. So as to ensure that SIB operations remain outside the Government General Balance, Eurostat advice and approval should be sought on institutional design. The National Asset Management Agency and BPI France – with its 50% government shareholding, the balance held by a government-backed financial institution – are possible templates. It cannot be excluded, however, that Eurostat will review and modify its treatment of such entities, or PPPs for that matter, in the future.

Seek state-aid approval. As was the case with NAMA and the UK's Green Investment Bank, state aid approval would be required from the EU Commission's DG Competition. This would help define the operational mandate of the SIB – and its limitations. Just as Irish commercial banks were solicited to be shareholders in NAMA, so Irish-based multinationals could be encouraged to invest a portion of their significant cash reserves in an SIB-type investment vehicle.

Confirm regulatory jurisdiction. Ongoing negotiations on the establishment of a European banking union render challenging the definitive allocation of regulatory responsibility at this point. The picture of banking union will evolve over the course of 2013 and 2014. A parallel could be drawn with KfW, which Germany has sought to have excluded from the mandate of any new banking supervisory authority. Whether the SIB is to be regulated by the Irish Central Bank, European Central Bank, European Banking Authority, or a new entity should not a cause for major concern.

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