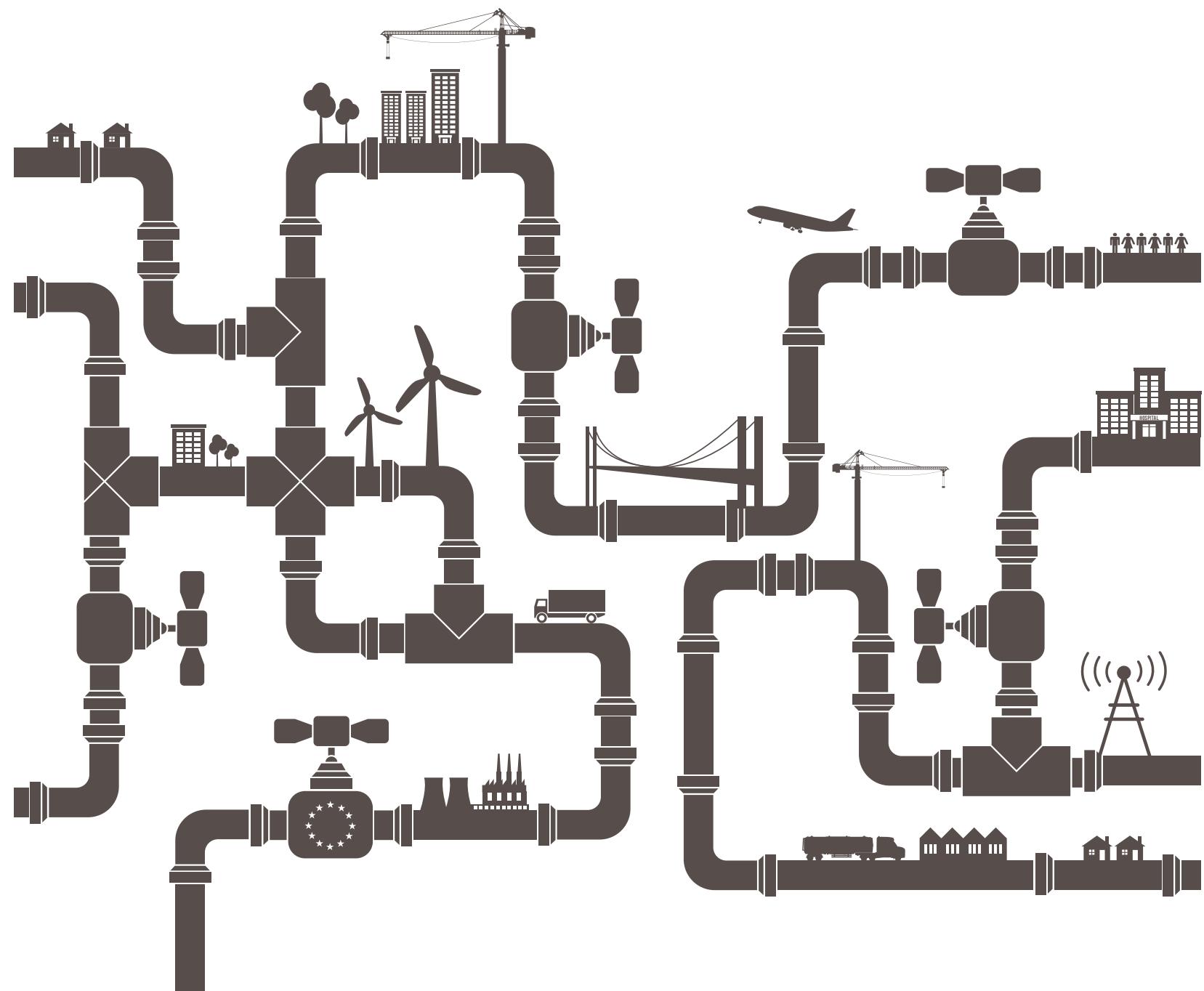


# LONG-TERM FINANCE FOR INFRASTRUCTURE AND GROWTH COMPANIES IN EUROPE



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### The International Regulatory Strategy Group

The International Regulatory Strategy Group (IRSG) is a practitioner-led body comprising leading UK-based figures from the financial and related professional services industry. It is one of the leading cross-sectoral groups in Europe for the financial and related professional services industry to discuss and act upon regulatory developments.

Within an overall goal of sustainable economic growth, it seeks to identify opportunities for engagement with governments, regulators and European and international institutions to promote an international framework that will facilitate open and competitive capital markets globally. Its role includes identifying strategic level issues where a cross-sectoral position can add value to existing industry views.

TheCityUK and the City of London Corporation co-sponsor the IRSG.

## FOREWORD

Europe faces a competitiveness challenge. To deliver a prosperous future for all 28 Member States and 500 million people, the EU must renew its infrastructure and invest in the companies that will provide the economic and jobs growth of the 21st century.

Energy security, transport networks and world-class digital connectivity, as well as housing, schools and hospitals are the indispensable building blocks of social and economic well-being. This report sets out how Europe's financial services sector can play its role in helping to deliver those benefits. It also focuses on growth companies within the small and medium enterprises (SME) sector. It is from these firms, which will be able to use revitalised infrastructure as a springboard, that increased competitiveness, jobs and growth will be driven.

There is no shortage of money to finance infrastructure, but there are obstacles in the way of the efficient allocation of capital to infrastructure projects. There is also competition for this money, which the EU must work to attract in the global economy. It is difficult for projects to get funding unless the providers of finance have certainty about how they will get paid. Europe's ageing population requires long-term investments that match the long-term need for an income in retirement. The EU has rightly focused on both the importance of a Single Market for capital and a comprehensive infrastructure plan as essential for Europe's competitiveness.

Making it easier for SME growth companies to access finance so they can be part of building and renewing Europe's infrastructure will benefit these firms and those they employ. It will also give investors and savers additional, diversified ways in which to put their money to work on major and long-term projects.

The recommendations in this report are concerned not just with removing obstacles to the efficient allocation of capital, but also with the management of risk and in particular political risk that inhibits the private sector's ability to invest for the long-term and deliver growth.

Building the infrastructure that will make Europe globally competitive is a massive undertaking. Neither the public nor the private sector alone has the capacity to deliver what is needed. Only by working in partnership across the whole of the EU can a challenge on this scale be met. In this report, the impact that success in meeting this challenge would have on jobs and growth is quantified. The financial and related professional services industries have an essential role, along with regulators and policymakers in enabling long-term and sustainable infrastructure investment with growth companies at the forefront.

# 1.0 EXECUTIVE SUMMARY

**1.1** Growth in the EU in 2014 was only 1.4%, there were over 24 million people unemployed and it has been estimated that the gap between planned spending on infrastructure and what is needed will require **€600 billion** annual investment to 2020.<sup>1</sup>

**1.2** This report by the International Regulatory Strategy Group (IRSG) looks, from the perspective of the private sector, at what can be done to mobilise capital most effectively to meet these challenges for the benefit of all 500 million people and 28 Member States in the EU. It builds on previous research and focuses in particular on long-term infrastructure and growth companies within the SME sector as areas that would benefit from better access to finance. The benefits of improving the effective operation of Europe's capital markets in terms of jobs and growth are quantified, using an econometric model developed as part of this research project.

**1.3** The policy recommendations in the report are aimed at the European Commission, Member State Governments, regulators and the financial services industry. The allocation of risk in infrastructure projects is crucial to their success and neither the public nor the private sector on their own can manage these risks. It is through the partnership between public and private sectors that risks can be properly allocated so that long-term finance for infrastructure and growth companies can deliver jobs and growth.

**1.4** What is being asked is that the public sector balance sheet should stand behind the risks that it is proper for it to bear, not that fiscally challenged governments should finance all the infrastructure which Europe needs in order to be competitive in the global economy.

**1.5** The European Commission's Investment Plan acknowledges the need to improve access to financing for both infrastructure and growth companies and the role that capital markets can play to address the intermediation gap between the supply and demand for long-term financing. Where markets are deep, liquid and well-regulated, market-based financing can play a role in narrowing investment gaps by providing a viable alternative to bank financing.

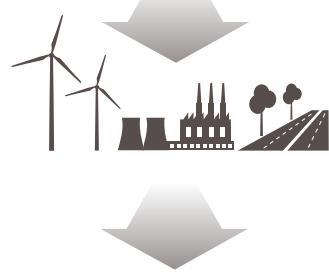
**1.6** This report on long-term investment in infrastructure and growth companies, identifies obstacles to investment and makes recommendations on how to remove these barriers. It shows how the financial and related professional services industry can enable competitiveness, sustainable growth and jobs in the broader economy. This is not a call for less stringent regulation, but rather an appeal to all stakeholders to make long-term finance for growth companies and infrastructure projects a priority.

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INCREASED SPENDING ON INFRASTRUCTURE WOULD CREATE AN ADDITIONAL 125,000 JOBS IN A YEAR IN THE EU.

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**125,000**

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<sup>1</sup> Eurostat News Release February 2015

**1.7** The main recommendations of this report are:

**European Commission:** deliver a transparent Infrastructure Plan with new instruments for long-term investment; promote international investment in EU projects and remove the bias towards debt over equity.

**Member States Governments:** make infrastructure planning transparent; reduce uncertainty and political risk; support growth companies to become 'investor ready'.

**Central Banks:** develop central credit registers and credit scoring standards; remove obstacles to securitisation to improve growth companies' access to finance.

**Financial Regulators and Supervisory Authorities:** ensure capital ratio requirements enable long-term finance; support the Markets in Financial Instruments Directive (MiFID) SME Growth Market classification.

**Financial Services Industry:** create innovative products and instruments to increase non-bank finance for infrastructure and growth companies; work with the European Commission and Member State Governments to develop the project pipeline.

AN ADDITIONAL 1.1M JOBS  
WOULD BE CREATED OVER SIX  
YEARS IN THE 20 COUNTRIES  
INCLUDED IN THE MODEL.

**1.1 MILLION**



**1.8** The econometric model created to quantify the impact on output and employment of an increase in infrastructure investment in the EU shows a positive effect arising from additional spending in both the short and medium term. The analysis takes as its starting point a one-off increase in infrastructure spending, but such spending is only possible with the right mix of monetary and fiscal policies and a strong overall enabling policy environment. The choice of projects and investment models can greatly enhance or detract from the efficacy of such investment. Strong policymaking is therefore critical for EU economies to reap the potential rewards of infrastructure investment.

**1.9** Capital markets can facilitate the allocation of finance for infrastructure that enables economic productivity and employment growth. The recommendations for long-term financing solutions for infrastructure address risk involved in infrastructure financing (in particular, political risk), the sustainability of funds in the long-term, choosing the right projects and creating the right business ecosystem to facilitate funding and deliver projects.

**1.10** SMEs account for more than two thirds of employment in Europe. Growth companies are an important subset of the SME sector, with the ability to innovate, expand and create employment. Recommendations in this report propose measures that can enable knowledge-sharing between investors and growth companies, diversify risk for investors or isolate and limit known risks to improve the attractiveness of investing in growth companies that facilitates their expansion potential and innovation.



GROWTH WOULD INCREASE  
BY AN AVERAGE OF  
0.2 PERCENTAGE POINTS  
PER YEAR

## Summary of recommendations

### Choosing the right infrastructure projects

► R1	<b>European Commission:</b> deliver an infrastructure plan for the EU
► R2	<b>European Commission:</b> create an infrastructure database for the EU
► R3	<b>Member States Governments:</b> introduce national infrastructure databases to make infrastructure demand and planning transparent across the EU
► R4	<b>Financial Services Industry:</b> review and use the European Commission infrastructure database to develop the project pipeline
► R5	<b>Member States Governments:</b> set up a National Infrastructure Agency in Member States of appropriate size
► R6	<b>Member States Governments and National Infrastructure Agencies:</b> create national infrastructure plans in Member States of appropriate size to reduce uncertainty and political risk
► R7	<b>Financial Services Industry:</b> develop better systems to price risk accurately
► R8	<b>European Investment Bank:</b> lower the risks involved in early stages of a project by providing guarantees
► R9	<b>National Infrastructure Agencies:</b> provide refinancing guarantees to enable the transition from bank to other finance during the life of a project

### Linking growth companies and finance

► R10	<b>Central Banks and Regulatory Authorities:</b> maintain central credit registers in each Member State; the information to be collated by the ECB for use across the EU
► R11	<b>Central Banks, Regulatory Authorities and Credit Reference Agencies:</b> work together to develop credit scoring standards for growth companies to allow cross-border access and comparative analysis
► R12	<b>Financial Services Industry:</b> enable growth companies to access the full range of finance opportunities

## Summary of recommendations

### New business ecosystems for infrastructure

► R13	<b>European Commission:</b> develop new, relevant and innovative financial instruments under clear rules to encourage investment in long-term assets
► R14	<b>European Commission:</b> conduct an assessment of the impact on the cost capital of the tax bias against equity
► R15	<b>Public and Private Sector Investors:</b> create innovative tools such as syndicated loans through a co-investment partnership to improve cooperation
► R16	<b>European Commission:</b> create a European infrastructure forum to accelerate the development of infrastructure as an asset class, working with the G20 Global Infrastructure Hub
► R17	<b>Financial Services Industry:</b> invest in dedicated infrastructure teams to ensure that projects are staffed by experts
► R18	<b>Public and Private Sectors:</b> build expertise and capacity through workplace exchanges

### New business ecosystems for growth companies

► R19	<b>European Commission and ECB:</b> review regulatory framework to remove obstacles to securitisation
► R20	<b>Financial Services Industry:</b> promote the growth of private placement markets
► R21	<b>European Commission:</b> develop Enterprise Networks that extend across Member State borders to improve the risk rating and reduce the cost of finance for growth companies
► R22	<b>Financial Services Industry:</b> develop new private equity instruments such as funds-of-funds to increase non-bank finance available to growth companies
► R23	<b>EIB and EIF:</b> provide appropriate funding vehicles to enhance collaboration between public and private investors
► R24	<b>Member States Governments:</b> create national information and education resources for growth companies to learn about being 'investor ready'
► R25	<b>European Commission and ESMA:</b> support the SME Growth Market classification created by MiFID

### Sustainable finance for infrastructure and growth companies

► R26	<b>European Commission:</b> promote international capital towards European projects
► R27	<b>Insurance Companies, Pension Funds and Pension Providers:</b> develop innovative products to manage investment risk, provide longevity protection and enhance lifetime income for Europe's ageing population
► R28	<b>EIOPA:</b> improve existing regulation to enable safe investment in illiquid assets
► R29	<b>Member States Governments:</b> launch a study into how auto-enrolled or mandatory savings programmes could help finance long-term infrastructure projects across Member States

## **2.0 INVESTING IN EUROPE'S FUTURE**

The European Union needs to be more competitive in the global economy to deliver jobs and growth for its 500 million people and 28 Member States. A robust and well-regulated financial system is essential to enabling this competitiveness. Significant progress has been made in strengthening regulation of the financial sector and building a new financial architecture. The challenge for the 2014-2019 EU mandate is to ensure the regulatory framework that was put in place after the financial crisis is working effectively and that investment is flowing from a diverse range of financial providers to the broader economy. A disproportionate or poorly calibrated regulatory response would undermine the ability of Europe's financial services industry to fulfil its traditional role of providing investment that enables jobs and growth.

This report looks at long-term investment in infrastructure and growth companies, identifies obstacles to investment and makes recommendations on how to remove these barriers. It will show how the financial and related professional services industry can enable competitiveness, sustainable growth and jobs in the broader economy. Growth companies are those that account for a significant share of new jobs created and are key players in economic growth. Within the SME sector they can include older firms in traditional sectors as well as younger, innovative, technology-based ones. Consumers rely on long-term savings, loans, investments and insurance products to meet their financial needs over the course of their life, whether it is buying a home or meeting the costs of retirement. Investing in growth companies and long-term infrastructure projects can match consumers' long-term needs.

The ability of the financial system and policymakers to address barriers to the supply and demand of long-term finance and channel funds into infrastructure and SMEs, but especially growth companies, will be essential in securing sustainable growth for Europe. This paper follows from the IRSG's *Finance for Jobs and Growth in Europe* which showed how financial and related professional services enable growth in the broader economy and can help policymakers respond to the challenges for the 2014-2019 mandate. It also builds on the report by Ares & Co for TheCityUK *SME Financing: Impact of Regulation and the Eurozone Crisis* (2012) which analysed obstacles to finance for SMEs across the EU and proposed improvements.<sup>2</sup> This latest report sets out an agenda and recommendations that support the EU's 2020 strategy to build a competitive European economy fit for the 21st century.<sup>3</sup>

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<sup>2</sup> TheCityUK/Ares & Co. *SME Financing: Impact of Regulation and the Eurozone Crisis*, 2012

<sup>3</sup> TheCityUK/IRSG *Finance for Jobs and Growth in Europe*, 2014

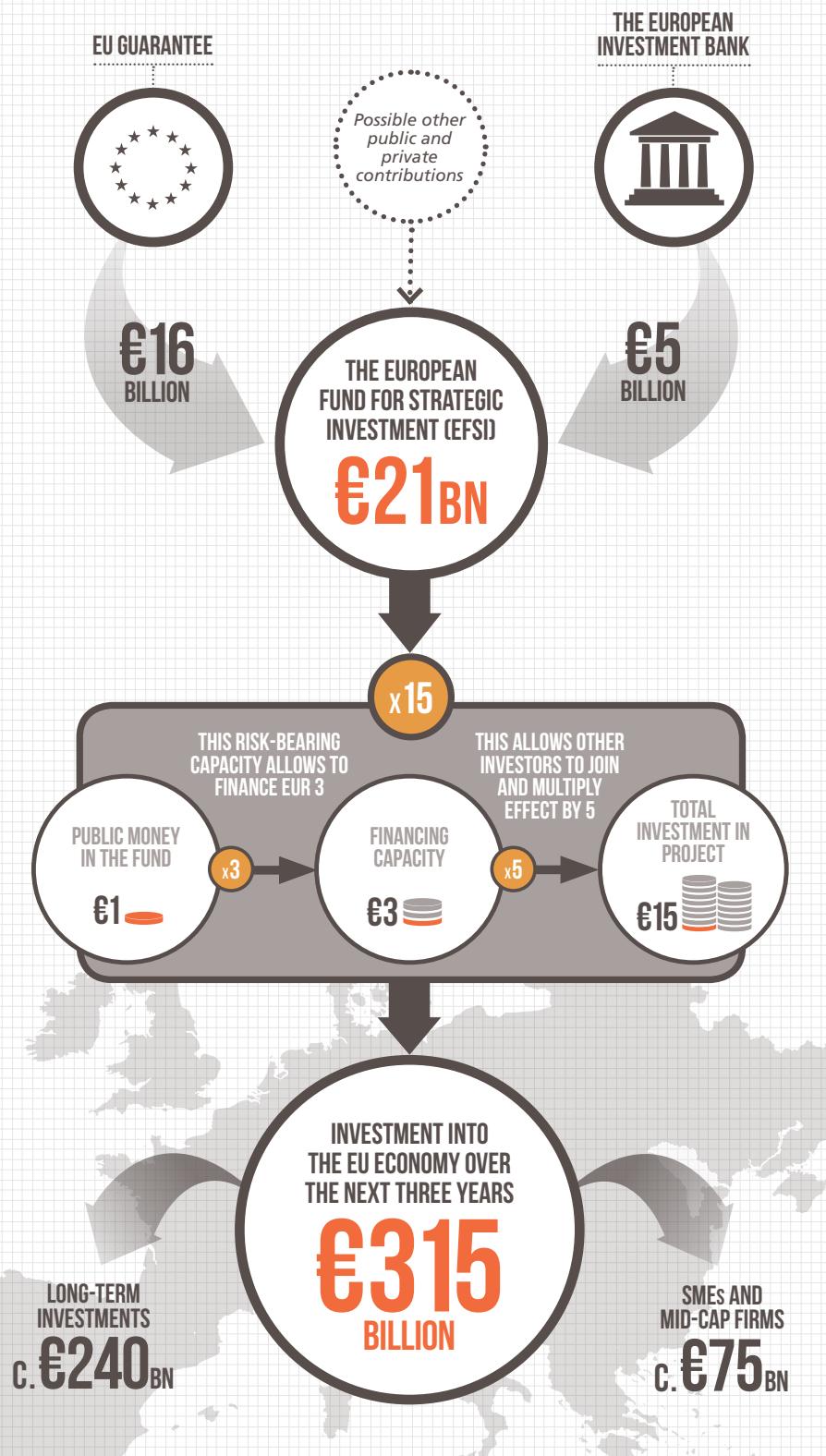
## THE EUROPEAN COMMISSION'S INVESTMENT PLAN AND EUROPEAN FUND FOR STRATEGIC INVESTMENT

The objective of the investment package is to channel investment towards strategically important projects, re-establish confidence among investors in Europe and beyond and boost economic activity. More initiatives like this, using public money to leverage private finance, are needed to close the EU's funding gap.

The Commission's ambition is to mobilise €315 billion of investment into the EU economy over the next three years. The Investment Plan proposes the creation of a new fund, the European Fund for Strategic Investment (EFSI). The EFSI will consist of €16 billion EU guarantee, 50% (€8 billion) of which will come from the EU Budget. The European Investment Bank (EIB) will contribute €5 billion, topping the fund up to €21 billion. The European Commission project the fund to mobilise €15 of investment for every €1 used in the fund.

While some previous schemes, including a €120 billion compact for growth in 2012 failed to generate the expected investment, the capital increase of the EIB in 2012 had an estimated multiplier effect of 1:18 and under the current Loan Guarantee Facility for SMEs, the Competitiveness of Enterprises and SMEs (COSME) programme, every EUR 1 billion of funding results in at least EUR 20 billion capital for SMEs.

The EFSI will sit inside the EIB and will have an investment committee that will consider projects based on dual commercial and societal basis. Choosing the right projects to invest in from the projects totalling €1.3 trillion that were submitted by Member States will be key to making the plan work.



Both infrastructure and SMEs were identified as key areas in the Commission's Investment Plan. The Investment Plan sets out the steps to boost investment, stimulate economic growth and create jobs. The Investment Plan's proposals to establish a credible project pipeline, coupled with an assistance programme to channel investments where they are most needed and to work on a roadmap to make Europe more attractive for investment and remove regulatory bottlenecks is welcome.

## **2.1 The effective allocation of risk in infrastructure projects**

Private sector investors are looking for safe, long-term investments that will generate a worthwhile return on capital. Governments at local, Member State and EU levels have infrastructure ambitions which are greater than the public purse can fulfil. But it is not the case that the public sector can simply promote a list of infrastructure projects and wait for the private sector money to pour in. The crucial intersection of the public and private sector interest in infrastructure financing is in the effective allocation and pricing of risk.

Infrastructure projects face considerable future risks and uncertainties. The financing of infrastructure projects is subject to selection risk, planning risk, procurement and contract design risk, construction risk, asset operation and longevity risk, and political risk. Of these, planning and political risks are most notably beyond the control of the private sector and political risk is predominant. It is only when the public and private sector work in partnership that these risks can be properly managed in a way that unlocks the finance necessary for infrastructure construction and renewal. This report makes policy recommendations that address these obstacles to finance which policymakers have the power to remove.

The financing of infrastructure projects can be improved through the effective allocation of risk between the public and private sectors. It is important to consider where infrastructure projects sit on the public sector balance sheet. This report does not call for fiscally-challenged governments to finance infrastructure projects in total, but rather to use the public sector balance sheet to stand behind risk which it can most properly bear.

By working in partnership, the public and private sectors can deliver a pipeline of strategically significant infrastructure projects that enable the creation of jobs and growth in the broader economy. Only governments can give the long-term certainty throughout the life of a project that makes political and planning risk acceptable to investors. By the transparency, predictability and certainty of planning, procurement and policymaking, governments can fulfil the public sector's ambitions for infrastructure in partnership with private finance.

## 2.2 Long-term finance for infrastructure and growth companies

While there is no single definition of long-term investment, it is characterised as investment that finances productive activities which is:

- **patient** – supports longer term objectives, rather than being driven by short-term performance metrics; and
- **engaged** – investors have a more direct interest in the investment.

This report looks at and makes recommendations in two areas: infrastructure and growth companies. For infrastructure, this encompasses tangible assets, such as roads, bridges, machinery, factories, commercial buildings, hospitals, and new housing units, as well as intangible assets, such as education and research and development (R&D) that increase future prospects for innovation and competitiveness. For growth companies, this will include venture capital for a prototype or loans for an R&D project.

Infrastructure investment is a key contributor to sustainable growth. Building and improving infrastructure allows the economy to function more efficiently and create jobs and acts as a key enabler for future economic development. It is estimated that Europe's infrastructure will require **€600 billion** of annual investment up to 2020.<sup>4</sup> The European Investment Plan announced by President Juncker in 2014 recognises the importance of infrastructure renewal for Europe's economic well-being and the vital role of the private sector in helping to finance this renewal.

The ability of the private sector to finance infrastructure development will be enhanced if obstacles to the efficient allocation of capital are identified and removed. The creation of a Single Market for capital that enables access to deep and liquid pools of capital across all 28 Member States was identified as an early priority for the new Commission. Capital Markets Union (CMU) and the Infrastructure Plan are complementary initiatives with the potential to transform Europe's competitiveness. The EU economy has been over-dependent on bank financing for infrastructure and business investment, especially for small businesses. The financial crisis revealed the need for a healthy and broad-based financial services industry with diverse and complementary ways of financing growth in the EU.

SMEs account for more than two thirds of employment in Europe. Their importance lies in their significant contribution to Europe's GDP (28%) as well as the ability of growth companies within the SME sector to innovate, grow and create employment. A key challenge that continues to face the whole sector is access to finance. 13% of SMEs in the Euro area reported this as their main problem.<sup>5</sup>

To enable growth companies and infrastructure projects to contribute to Europe's competitiveness, policymakers, regulators and the financial services industry must work together to identify and remove obstacles to long-term investment. The focus on competitiveness, jobs, growth and better regulation that has been adopted for this EU mandate is therefore welcome.

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<sup>4</sup> EIB Private Infrastructure Finance and Investment in Europe, 2013

<sup>5</sup> ECB 11th Survey on access to finance of enterprises, 2014

## 2.3 Strategic investments and intergenerational fairness

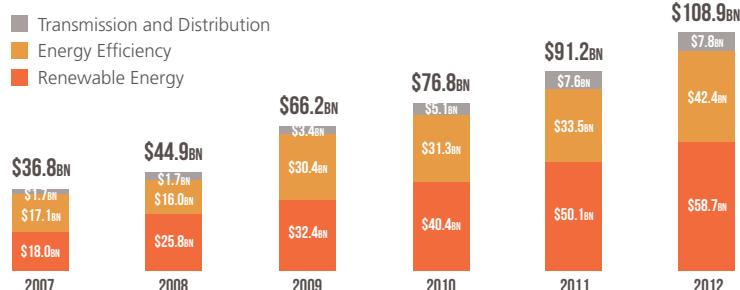
Investment choices in infrastructure and growth companies are of significant importance for the broader economy. Investment decisions should be strategic, addressing both the short-term risk and reward profiles of participants as well as longer-term policy goals.

### Strategic investments

Strategic investments in infrastructure and growth companies should draw on innovative and creative new approaches that inspire smarter investment decisions and foster public support. Lending to innovative industries (such as renewable energy) is one example of this approach. State banks trebled their investments in renewable energy between 2007 and 2011.<sup>6</sup> But more can be done to support and enable lending to innovative industries in sectors such as clean and renewable energy.

#### DEVELOPMENT BANK BOARD CLEAN ENERGY INVESTMENT

*By sector*



Source: Levy Economics Institute Beyond Market Failures: The Market Creating and Shaping Roles of State Investment Banks, 2015

### Iнтерgenerational fairness

Investment decisions that promote growth and employment should also address demographic change and the future liabilities of an ageing population. It is estimated that nearly one third of Europeans will be over 65 by 2060.<sup>7</sup> European policymakers face a significant challenge in ensuring that people have adequate pension savings to fund longer retirements. The pensions industry helps to meet this challenge by providing incomes for retirement and channelling savings into investments.

Infrastructure is both a shared long-term investment and an intergenerational legacy. Investment strategies and policies can be considered fair and sustainable if they satisfy present needs without compromising the ability of future generations to meet their own needs. This implies that investors have a great responsibility to invest for the next generation in asset classes that match their liability profiles with the right risk-reward prospects.

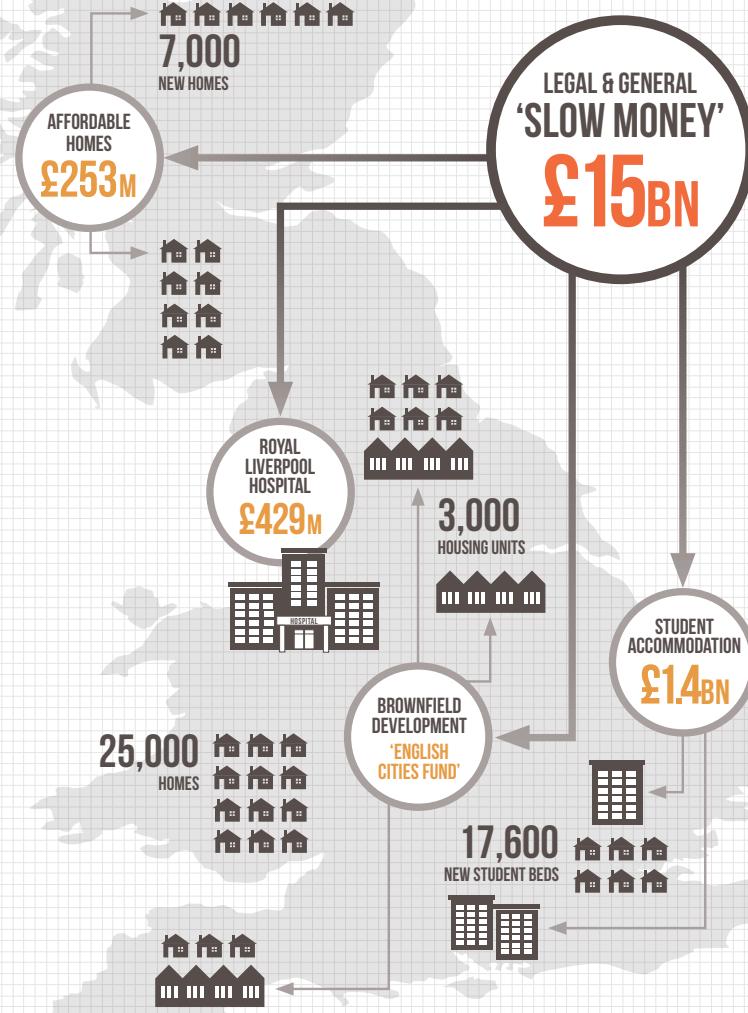
<sup>6</sup> Levy Economics Institute Beyond Market Failures: The Market Creating and Shaping Roles of State Investment Banks, 2015  
<sup>7</sup> European Commission *The Ageing Report*, 2012

## THE INSURANCE INDUSTRY AND DEMAND FOR INFRASTRUCTURE FINANCE

An innovative programme devised by Legal & General, 'Slow Money' provides long-term capital for the UK's housing market with tenures of up to 50 years, invests in stable returns, contributes directly to the building of new homes and regenerates disused properties across the UK.

### The 'Slow Money' programme:

- Funds a pipeline of 25,000 homes with tenures of up to 50 years
- £253 million supports the building of 7,000 houses
- £40 million and a 20-year debt facility supports the delivery of up to 900 affordable new homes by 2018
- £40m over 25 years for Thames Valley Housing to house key National Health Service workers
- £1.4 billion investment in student accommodation through a newly created asset class to generate 17,600 new student beds
- English Cities Fund created to bring urban brownfield land back into productive use that will deliver 3,000 housing units.



Long-term investment choices should be made by entities committed to long-term horizons. This requires ongoing cooperation between the financial services industry, public sector partners and policymakers in order to design and promote new funding models and to provide investors and corporates with the confidence to commit substantial funds to a project over a long period of time.

Entities committed to long-term horizons such as pension providers are natural potential investors for long-term infrastructure projects. Pension providers need to invest in diversified assets including infrastructure as well as in bonds and equities in order to guarantee stable returns over the long-term.

## 2.4 Sources of long-term finance

There is no quick or easy solution to Europe's public debt problem. The climate of uncertainty and risk-aversion created by the financial crisis has affected both the demand for and supply of financing, in particular through banks.

Conservative estimates of the impact of new prudential capital and liquidity rules for banks in Europe indicate a minimum of **€4 trillion** gap in funding for the economy in the 5 years to 2020. The European Commission estimated in 2011 that infrastructure investment needs up to 2020 were in the range of **€1.5–2 trillion**. TheCityUK estimates that infrastructure investment needs worldwide over the next 15 years will reach nearly **€60 trillion**.<sup>8</sup>

The sources of long-term finance should be diversified, while recognising the important role that banks will continue to play, particularly for SMEs. Economies will prosper when there are multiple and diverse channels of access to finance.

Effective collaboration between the public and private sector supported by policies that aim to match the supply and demand of capital is essential if infrastructure and SME financing gaps are to be addressed. Few Member States can meet this demand solely from public funds. Private sector involvement in projects needs clear structuring by a knowledgeable public sector partner in order to balance the risks taken.

Debt has been favoured over equity for long-term financing by a large majority of corporate tax and legal environments in Europe and internationally. This bias towards debt has developed over time. Allowing the deduction of debt interest costs has incentivised debt financing, while there is no similar treatment for the costs incurred in raising equity. The tax bias towards debt financing may incentivise companies to take on more debt and penalise innovative investment strategies. In 2013, the volume of equity and fixed income securities traded on major exchanges amounted to over **\$70 trillion**. Funds raised through IPOs globally amounted to **\$163 billion**, a fifth of which was raised on European bourses.

Differing legal environments for long-term finance and discrepancies between the insolvency laws of Member States and inflexibilities in these laws create high costs for investors, low returns for creditors and difficulties for long-term cross-border activities. These inefficiencies affect the availability of funding as well as the ability of firms to become established and grow, with particular impact on SMEs. More balanced and diversified sources of long-term finance will enable the financial system to increase its support for business investment and economic growth.

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<sup>8</sup> TheCityUK UK Infrastructure, 2014

## 3.0 JOBS AND GROWTH FOR EUROPE: QUANTIFYING THE BENEFITS OF INCREASED INFRASTRUCTURE INVESTMENT

In the global context, EU countries are well-positioned in terms of their stock of infrastructure. Nevertheless, they cannot afford to be complacent; rapid infrastructure investment in recent years in emerging and middle-income economies – particularly in Asia and the Middle East – means that European countries risk losing competitiveness. Globally, merely keeping pace with economic growth is estimated to require nearly **\$60 trillion** in infrastructure investment over the 15 years to 2030.<sup>9</sup>

As the EU consolidates the lessons from the 2008-09 financial and economic crisis and positions itself to look ahead rather than to the recent past, it is well placed to contemplate an increase in infrastructure spending. Concerns about high levels of public debt need not necessarily pose an obstacle to such investment. For one thing, most European governments continue to enjoy high credit ratings and therefore have easy access to capital markets; for another, most EU Member States benefit from a robust institutional investment framework.

Faster rates of investment growth can play an important role in bolstering headline economic growth. The particular benefits of infrastructure investment have recently been reintroduced into policy debates. For example, the IMF noted: "... evidence from advanced economies suggests that...increased public investment [in infrastructure] would provide a much-needed boost to demand in the short term and would also help raise potential output in the long term."<sup>10</sup>

Neither this assessment nor the competitive threat posed by emerging markets should, however, be taken as justification for indiscriminate, and undifferentiated investment in infrastructure. A significant body of research confirms that with the benefit of hindsight, some infrastructure investment in developed countries could be described as wasteful, having added to the public-debt burden without necessarily having boosted a country's long-term productive potential. Taking into the account the relatively high quality of infrastructure in the UK, for example, the Eddington report<sup>11</sup> advocated investments designed to improve the quality of the existing stock of transport infrastructure rather than investment in new projects. Following on from this, the study's recommendations to the UK Government took care to outline the sectors and geographical regions in which investment would have the greatest positive impact on growth. Implicit in this recommendation is the idea that all infrastructure investment is not equal.

TheCityUK and Accenture have created an econometric model to quantify the

<sup>9</sup> McKinsey Global Institute Infrastructure productivity: How to save \$1 trillion a year, January 2013

<sup>10</sup> IMF World Economic Outlook, October 2014

<sup>11</sup> The Eddington Transport Study, 2006

impact on output and employment of an increase in infrastructure investment in the EU. The model shows a positive effect arising from additional infrastructure spending in both the short and medium term. Charts 1 and 2 summarise the results, but key result is that a one-off increase in infrastructure spending will increase both real GDP growth and employment, although the magnitude of the impact varies greatly across countries. The biggest effect will be seen in the first year after the investment (in our model, in 2015).

Like all models, this model is theoretical and provides a simplified framework within which relationships among key variables can be explored. The model does not account for investment in different sub-sectors of infrastructure; rather, it includes only transport & storage, and electricity, gas and water, and looks only at aggregate investment. It also does not distinguish among regions within countries, so treats a pound or euro spent in a rural area, a small town, or a major conurbation equally. The results can be used to inform current policy debates about infrastructure investment needs, with the understanding that the identification of investments with the greatest potential to add value will require a mix of quantitative and qualitative analysis.

With these limitations in mind, highlights of the specific findings include the following:

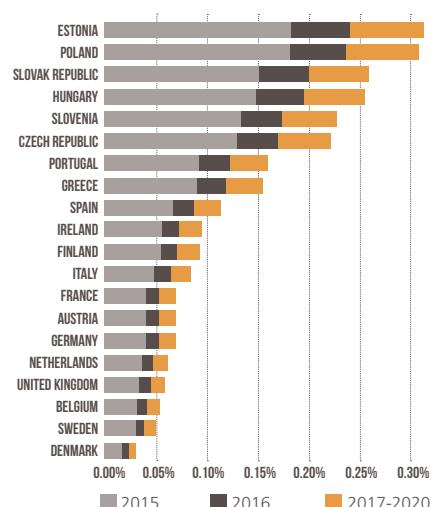
- The UK is in the bottom quintile of countries in terms of the magnitude of the effect of additional spending, with GDP growth estimated at 2.51% in 2015 compared with a baseline of 2.46%, and employment growth showing a similarly-sized boost (0.03 percentage points)
- In Estonia – the country in which additional investment has the greatest impact – economic growth rises from 2.36% in 2014 to 3.63% in 2015, compared with a baseline scenario in 2015 (of no additional investment) of 3.21% growth. Employment growth in 2015 is 0.18% rather than 0%.
- In France, growth rises from 1.03% in 2014 to 1.59% (with investment) compared with 1.53% (baseline). Employment growth, which is negative in the baseline scenario, becomes less negative, at -0.38% (with investment) compared with -0.42% (baseline).
- The Nordic countries are notable for the markedly small effect triggered by additional infrastructure investment. In Denmark, Sweden and Iceland the average additional increase in both growth and employment arising from extra infrastructure spending is just 0.03 percentage points. Finland, however, shows more positive results. (Norway is not included in our sample.)

Charts 1 and 2 also demonstrate that the magnitude of the impact also diminishes over time, suggesting that the timing of new spending is critically important when considering the desired macroeconomic effect, and that counter-cyclical policies may be an appropriate part of current and future policy debates.

Analysis of the results also demonstrates that although the impact of infrastructure investment is positive in all cases, the magnitude of the impact is negatively correlated with a country's level of economic development. This is an

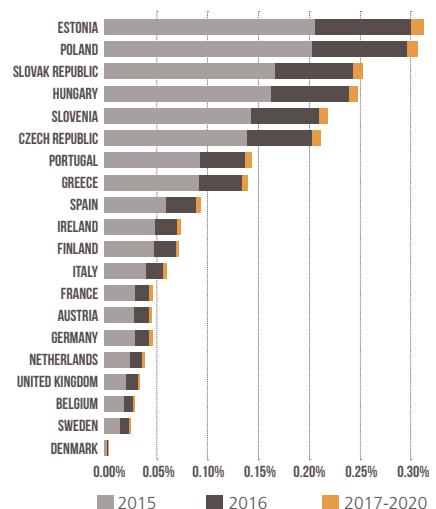
**CHART 1: EMPLOYMENT GROWTH IMPACT**

*Additional bps of growth as triggered by a 5bps increase in infrastructure investment growth*



**CHART 2: GDP GROWTH IMPACT**

*Additional bps of growth as triggered by a 5bps increase in infrastructure investment growth*



Source: Accenture Research Economic Value Modelling estimation based on OECD, EUKLEMS and IMF

OECD [Dataset: STAN Database for Structural Analysis, publication year (2009/2012), <http://stats.oecd.org/Index.aspx?DatasetCode=STAN08BIS&lang=en>] — Used by permission.

intuitive conclusion, but the model demonstrates that net employment creation one year after an increase in infrastructure spending is 60% higher in the low-income countries in our 20-country sample than in the high-income countries. On average, the impact on growth is larger than the impact on employment: across the 20 countries, the average change in employment growth relative to the baseline forecast is 0.08 percentage points, whereas the average change in the output growth is 0.2 percentage points.

### 3.1 Modelling a one-off increase in the rate of infrastructure spending growth

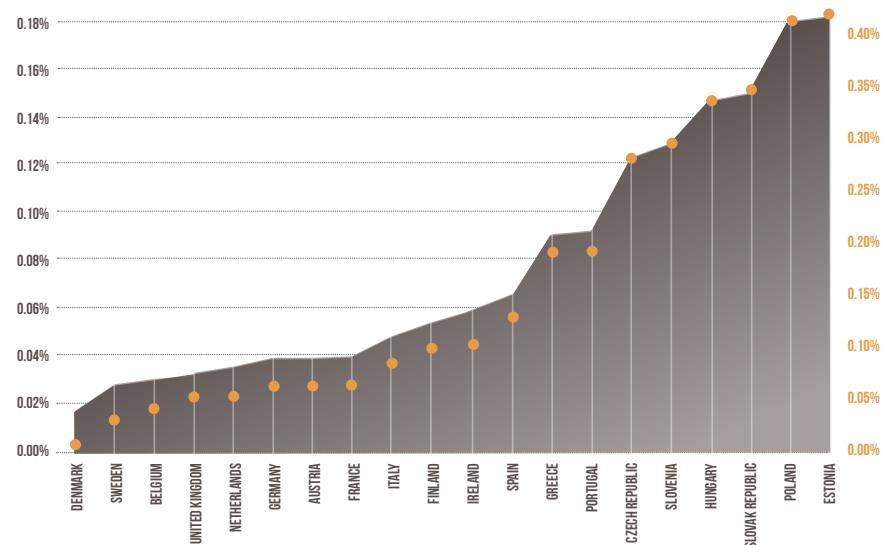
A panel-data econometric model has been used to estimate the impact on employment and GDP growth from a discrete, one-off increase in infrastructure investment. The model estimates the impact on real GDP growth and employment arising from a 5-basis-point increase in the rate of growth of infrastructure spending. The regression specification includes an estimation of the elasticity of response of infrastructure investment specific to each country; this is crucial to the robustness of the results, since it captures the diminishing marginal returns of infrastructure investment and explains the results discussed below. A full description of the methodology may be found in the appendix.

### 3.2 Boost to growth and employment rates varies across countries

Across all 20 countries in this study, a 5-basis-point increase in infrastructure investment growth relative to the 2014 rate of growth has a positive impact on employment and real GDP growth.

#### CHART 3: CROSS-COUNTRY IMPACT OF INFRASTRUCTURE INVESTMENT

■ Employment growth impact: one year additional bps of growth as triggered by 5bps increase in infrastructure investment growth (left)  
 ● GDP growth impact: one year additional bps of growth triggered by 5bps increase in infrastructure investment growth (right)



Source: Source: Accenture Research Economic Value Modelling estimation based on OECD, EUKLEMS and IMF  
 © OECD [Dataset: STAN Database for Structural Analysis, publication year (2009/2012) , <http://stats.oecd.org/Index.aspx?DatasetCode=STAN08BIS&lang=en>] — Used by permission.

The scale of the increase in employment one year out ranges from an additional 500 jobs (Denmark) to an additional 30,000 jobs (Poland). This estimation considers only the additional employment from the additional infrastructure investment; in other words, it does not take into account the employment growth that would have occurred even without the additional investment. The country-wise variance in impact is clear when viewed in percentage growth terms: for example, in the Czech Republic, the additional infrastructure investment would result in employment growth of 0.63% instead of the baseline (as forecast by the IMF) of 0.50% growth. Table 1 compares baseline employment growth with the simulated employment growth that takes account of the additional infrastructure spending.

**TABLE 1: EMPLOYMENT GROWTH (YOY) IN 2015**

	Baseline	With additional spend
Austria	0.80%	0.84%
Belgium	0.41%	0.44%
Czech Republic	0.50%	0.63%
Denmark	0.44%	0.46%
Estonia	0.00%	0.18%
Finland	0.24%	0.30%
Germany	0.64%	0.68%
Greece	2.59%	2.68%
Hungary	0.25%	0.40%
Ireland	1.77%	1.82%
Italy	1.08%	1.13%
Netherlands	0.23%	0.26%
France	-0.42%	-0.38%
Poland	0.28%	0.46%
Portugal	0.73%	0.82%
Slovak Republic	0.55%	0.70%
Slovenia	0.54%	0.68%
Spain	0.36%	0.43%
Sweden	0.81%	0.84%
United Kingdom	1.11%	1.14%

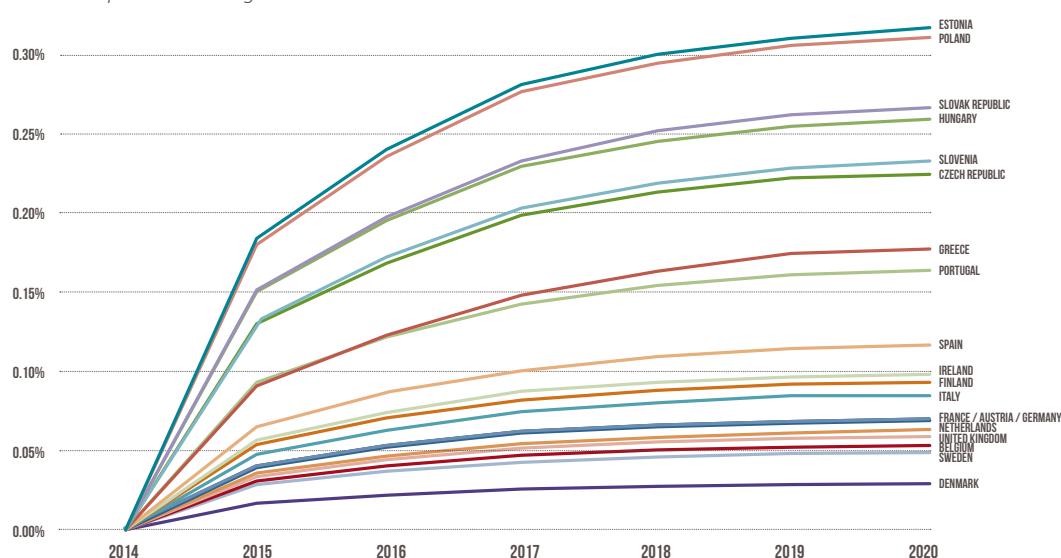
Sources: IMF; Source: Accenture Research Economic Value Modelling estimation based on OECD, EUKLEMS and IMF

The biggest increase in employment levels is seen with immediate effect (i.e., in 2015). However, the positive effect continues over the course of the forecast horizon; in 2020, average cumulative employment growth across the 20 countries is estimated to be 3.2% with the additional investment in 2014, compared with baseline growth (in a scenario of no additional infrastructure investment) of 3.0%. The boost to employment is, however, subject to diminishing returns over time, as shown in Chart 4.

The scale of the increase in economic growth one year out ranges from 0.006 percentage points (Denmark) to 0.42 percentage points (Estonia). This means that following a 10-basis-point increase in infrastructure growth relative to 2014, real GDP growth in 2015 would be 1.68% in Denmark (compared to 1.67% without the additional investment), and 3.63% in Estonia (compared to a baseline of 3.21%). As with employment growth, the effect of the additional investment diminishes over time, with the biggest impact seen in 2015.

#### CHART 4: EMPLOYMENT GROWTH

*Additional bps of cumulative growth to baseline*



Source: Accenture Research Economic Value Modelling estimation based on OECD, EUKLEMS, IMF and World Bank  
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### **3.3 Policymaking to support potential economic effects**

The results of the modelling reinforce the positive impact that additional infrastructure spending has on both employment and output in both the short and medium term. The model output quantifies these economic benefits, and the results demonstrate that the greatest economic impact (in both growth and employment terms) would be felt in the relatively less-developed European economies. The countries enjoying the biggest boosts to growth are Estonia, Poland, the Slovak Republic and Hungary, whereas the countries where the boost to growth is more restrained are among the richest members of the EU: Denmark, Sweden and Belgium.

A supportive policy environment is critical for EU economies to reap the potential rewards of infrastructure investment. For example, the model takes as its starting point a hypothetical 5-basis-point increase in infrastructure spending – but ensuring a sustainable flow of long-term capital for infrastructure investment will help such an increase come to pass. Since long-term investments are inherently uncertain, every effort should be taken to ensure that availability of capital does not add to that uncertainty, thus stifling potential investment. The creation of new financial instruments to support long-term investment in infrastructure would be a concrete step towards helping to ensure that potential infrastructure spending is not postponed or abandoned owing to lack of attractive financing options.

The model examines the effects of aggregate infrastructure investment, but just as returns on investments in various projects will vary by sub-sector and even project, so too will the macroeconomic benefits of such investment. Further analysis could be undertaken to assess which sub-categories of infrastructure would be likely to produce the biggest boosts to growth and employment following additional investment. These sub-categories could then be prioritised in terms of policies like the drafting of National Infrastructure Plans and the provision of refinancing guarantees.

# 4.0 POLICY RECOMMENDATIONS

Unlocking long-term finance for growth companies and infrastructure projects will be key to tackling the challenges outlined earlier in this report. The financial services industry, Member State governments, European policymakers and officials need to work together to restore Europe's competitiveness and unlock its growth potential. This is not a call for less stringent regulation, but rather an appeal to all stakeholders to make long-term finance for growth companies and infrastructure projects a priority.

## 4.1 Choosing the right infrastructure projects

For infrastructure investors, choosing the right projects to invest in presents a significant challenge. An important part of this is characterising risk and managing its different components: political and macro-prudential risk; policy and regulatory risk; financial risk and execution risk. Few 'shovel-ready' projects exist, where a government has already selected, planned, and designed the underlying infrastructure asset and undertaken the risk assessment for each project stage. Many projects remain at the planning permission stage.

To support the private sector in delivering infrastructure projects, the public sector must take the leading role. The private sector, in turn, can play a strong role in helping the public sector to identify investible projects for the infrastructure pipeline. By removing the political risk that dominates infrastructure projects, the public sector can help to transform marginal projects into investible projects. Smaller projects can still be economically viable for investors, if smaller projects are aggregated together into a collectively investible opportunity. A key challenge in establishing this partnership is to ensure that the private sector does not crowd out the public sector.

## Choosing the right infrastructure projects

### Recommendations

► R1	<b>European Commission:</b> deliver an infrastructure plan for the EU
► R2	<b>European Commission:</b> create an infrastructure database for the EU
► R3	<b>Member States Governments:</b> introduce national infrastructure databases to make infrastructure demand and planning transparent across the EU
► R4	<b>Financial Services Industry:</b> review and use the European Commission infrastructure database to develop the project pipeline
► R5	<b>Member States Governments:</b> set up a National Infrastructure Agency in Member States of appropriate size
► R6	<b>Member States Governments and National Infrastructure Agencies:</b> create national infrastructure plans in Member States of appropriate size to reduce uncertainty and political risk
► R7	<b>Financial Services Industry:</b> develop better systems to price risk accurately
► R8	<b>European Investment Bank:</b> lower the risks involved in early stages of a project by providing guarantees
► R9	<b>National Infrastructure Agencies:</b> provide refinancing guarantees to enable the transition from bank to other finance during the life of a project

### ► R1

#### **European Commission: deliver an infrastructure plan for the EU**

A pan-EU infrastructure plan that highlights demand encourages productive investment and address constraints should be delivered. This plan should particularly look at cross-border projects that are more difficult to capture in national infrastructure plans. About 25% of the projects should also cover national ones of strategic importance to the EU economy as a whole. The national infrastructure plans and the pan-EU plan should be reviewed annually.

The European Fund for Strategic Investments (EFSI) and the European €315bn European Investment Plan announced by President Juncker are welcomed initiatives. The EFSI aims to provide risk capital to stimulate investment and respond to market gaps across a wide range of sectors. The fund will focus on sectors of key importance to the EU where the EIB has proven expertise, including strategic infrastructure investment. It will be important that the plan retains a strictly economic decision-making process in picking projects, in line with the EIB's guidelines.

It is important that the review process due to have been concluded by mid-2016 will be conducted thoroughly. Industry feedback should be a key factor in deciding how to continue this initiative beyond its initial phase, as well as in shaping the governance structure and culture of the fund from its outset.

## NATIONAL INFRASTRUCTURE PLAN – CANADA

A challenge facing suppliers of infrastructure finance is in choosing the right projects to invest in that have clearly presented risks and rewards.

National infrastructure plans that provide an outline of how government and private sector participants can work together to manage risk and achieve security and resilient outcomes can help inform infrastructure investors to choose projects they can supply finance for. It provides a plan that takes into account the current risk, policy, and strategic environment that will boost investor confidence in the projects investors choose to finance.

### The New Building Canada Plan

Canada's 'New Building Canada' Plan builds on Canada's government historic infrastructure investment of Canadian

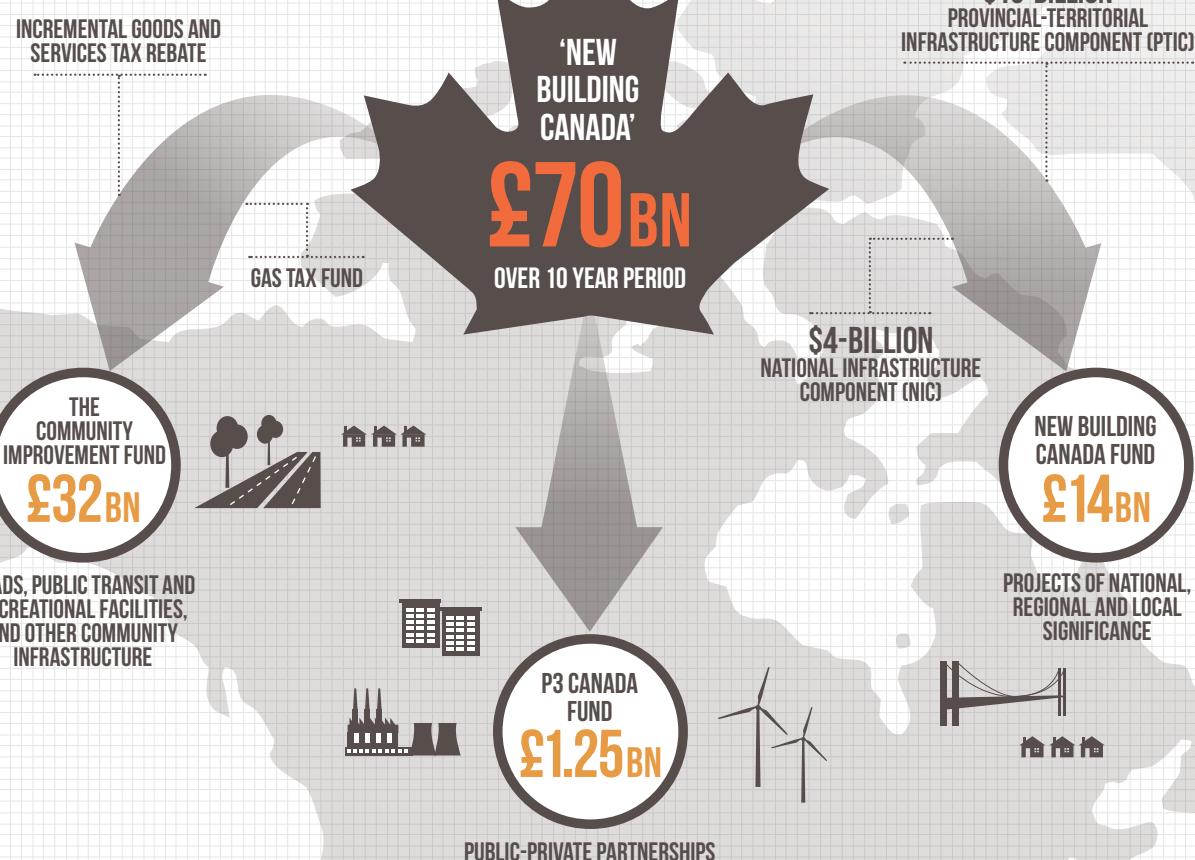
\$33 billion in stable, flexible and predictable funding across the country. The plan aims to provide \$70 billion of stable funding for a 10-year period that includes:

- The Community Improvement Fund, consisting of the Gas Tax Fund and the incremental Goods and Services Tax Rebate for Municipalities, will provide over \$32 billion to municipalities for projects such as roads, public transit and recreational facilities, and other community infrastructure that address their local needs.
- A \$14-billion New Building Canada Fund, which consists of the:
- \$4-billion National Infrastructure Component (NIC) that will support projects of national significance; and

– \$10-billion Provincial-Territorial Infrastructure Component (PTIC) for projects of national, regional and local significance. Of this amount, \$1 billion is dedicated to projects in communities with a population of fewer than 100,000 residents.

- An additional \$1.25 billion in funding for the P3 (Public-Private Partnerships) Canada Fund administered by PPP Canada.

The plan provides an outline long-term predictable and secure investment strategies that will attract investors, meet the high standards required by the government and secure long-term economic growth.



➤ **R2**

**European Commission: create an infrastructure database for the EU**

A pan-EU real-time database of infrastructure projects built on 28 Member State infrastructure databases would increase the visibility of infrastructure demand through an infrastructure pipeline. The European Commission's proposal to establish a European Investment Project Pipeline is welcome. The database currently maintained by the EIB of projects which have been submitted to it for financing goes some way to address this need, but is not sufficiently visible or comprehensive. A fully pan-EU infrastructure database which standardises key metrics such as funding requirements, contractual structures and environmental requirements would enable greater investment by the private sector. Projects included on the central database could be submitted by individual companies as well be drawn from the 28 Member State databases.

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➤ **R3**

**Member States Governments: introduce national infrastructure databases to make infrastructure demand and planning transparent across the EU**

Collating details of current and forthcoming infrastructure projects in each of the 28 Member States would make infrastructure investment opportunities more visible. Member States Governments working in collaboration with local and regional authorities to introduce national infrastructure databases (linked with the database set up as part of the European Fund for Strategic Investments) could thereby improve the ability of investors to assess and commit to infrastructure projects. Making this data transparent across the EU would enable a better functioning EU single market for capital.

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➤ **R4**

**Financial Services Industry: use and review the European Commission infrastructure database to develop the project pipeline**

The success of the pan-EU infrastructure database will depend on the participation and commitment of the private sector and the willingness of the European Commission to review and improve it. Regular measurements of the flows of capital into infrastructure projects held on the database and consultation with public and private sector stakeholders will be necessary.

An important challenge is to ensure that the diversity of expertise, cost-savings and efficiencies achieved from delivering an infrastructure projects is not dismantled once the project is completed.

**R5****Member States Governments: set up a National Infrastructure Agency in Member States of appropriate size**

Since its peak in 2007 infrastructure spending in the EU has declined by approximately 15%. It is estimated that the EU's infrastructure spending needs in the five years to 2020 are in the range of €1.5-2 trillion.

The role of an independent National Infrastructure Agency in each Member State (where appropriate) would be to enable long-term investment in infrastructure and channel pension savings and other long-term investments into matching assets. National Infrastructure Agencies in all 28 Member States could identify short-term and long-term infrastructure priorities. The importance of surveying and preparing detailed plans, prioritising projects, depoliticising risk and making projects as close to 'shovel-ready' as possible bears repeating.

**R6****Member States' Governments and National Infrastructure Agencies: create national infrastructure plans in Member States of appropriate size to reduce uncertainty and political risk**

Priority projects focusing on areas with a sustained impact on economic growth and with the potential to enhance productivity should be included in an annually reviewed and published plan. Infrastructure projects usually entail political risks which are often difficult to assess. These risks are mostly related to political stability and the risk that contracts may be amended by future governments which are under pressure from European or international institutions. This risk is also reflected in ratings of infrastructure debt and is an important factor in determining financing costs. For example, in Spain solar subsidies were drastically modified resulting in a reluctance to participate in future deals. It is important for bidders to have comfort that the rules will not change when there is a change of government. By depoliticising big infrastructure projects through their inclusion in national infrastructure plans, the political risk would be decreased and easier to assess.

However, delivery is just as important as developing infrastructure plans. This partly comes down to having the right well-qualified experts in place with authority to implement the plan. For projects to be carried out quickly and efficiently it is essential that Governments employ experts who understand private sector drivers (including appropriate risk allocation) and can perform consistently over successive projects.

**R7****Financial Services Industry: develop better systems to price risk accurately**

Correctly pricing risks throughout the different phases of infrastructure projects is essential in attracting investors. The use of innovative data and analytics should be promoted to try and price future risk as accurately as possible at the selection, planning and design stage of the underlying asset, as well as the procurement and contractual design stage, the construction delivery, and lastly, at the operational phase of the infrastructure asset. The industry should develop better systems to price risk accurately.

► **R8**

**European Investment Bank: lower the risks involved in early stages of a project by providing guarantees**

Political risk is difficult to assess. Combined with high uncertainty about returns at the early stages of many projects, there is a role for the public sector in providing stability that allows investors to earn returns. This could be done via upfront guarantees provided by the EIB. These upfront guarantees from the public sector should provide support throughout the life-cycle for larger projects with higher risks that also bring high public benefits. When a project runs into difficulties, the public sector should step in and take ownership of the asset. As the EIB is part of the public sector balance sheet, cooperation between the EIB and the National Development Agencies to address first-loss risk and keep the EIB balance sheet clean will be needed.

The EIB and its Project Bond are a good example of risk sharing to facilitate private investment in particular projects. The main aims of the Project Bond initiative are to stimulate investment in EU infrastructure and establish debt capital markets as an additional source of financing. The EIB thereby provides financial assistance that enhances the credit quality of bonds in target projects identified by the European Commission and covered by the EU Connecting Europe Facility. This programme can help guarantee early stage investment from the private sector in projects that might otherwise be considered too risky. The European Commission's Communication on long-term financing contained a recommendation for the exploration of expanding the use of Project Bonds beyond the Connecting Europe Facility.

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► **R9**

**National Infrastructure Agencies: provide refinancing guarantees to enable the transition from bank to other finance during the life of a project**

Typically banks lend for five to seven years and fund a project to completion. Pension and insurance funds will then come in and take them on for the longer term. There are examples from the Middle East in which the public sector has successfully guaranteed the refinancing of projects to enable the transition to the private sector. Financing needs to be structured to enable an easy transition from bank to other finance. The structuring will ensure long-term viability of infrastructure projects by aligning the debt repayment obligations with cash flows generated during the economic life of the project.

## 4.2 Linking growth companies and finance

Within the SME sector growth companies are those with the greatest potential to add scale and create employment through participation in the renewal of Europe's infrastructure.

Broader macroeconomic and Eurozone uncertainty continues to be a key barrier that reduces the attractiveness of investment opportunities for growth companies. However, other challenges that can be more easily addressed also remain. For investors, SMEs present a fragmented community of which growth companies are a sub-set. Investors are faced with growth companies that are very regionally focused. There is potentially under-funded government support for lending to growth companies and to the wider SME sector. The variety of SME support schemes that exist at a national and EU level is confusing to growth companies. The advice and support schemes that are available need to be properly promoted so that Europe's growth companies are aware of the help on which they can draw.

Linking growth companies and finance	
Recommendations	
► R10	<b>Central Banks and Regulatory Authorities:</b> maintain a central credit register in each Member State; the information to be collated by the ECB for use across the EU
► R11	<b>Central Banks, Regulatory Authorities and Credit Reference Agencies:</b> work together to develop credit scoring standards for growth companies to allow cross-border access and comparative analysis
► R12	<b>Financial Services Industry:</b> enable growth companies to access the full range of finance opportunities

### ► R10

**Central Banks and Regulatory Authorities: maintain a central credit register in each Member State; the information to be collated by the ECB for use across the EU**

When assessing the creditworthiness of a growth company with a view to making a loan, it is important for the lender to have information about the business' past financial performance. This information is, however, often held by the bank that provides the business' current account and is not widely shared. Other providers of finance do not have access to the same level of information as the bank.

Past financial performance is an important indicator of future creditworthiness. Particularly in the case of smaller firms, however, such records are often held by the firm's provider of day-to-day banking services, and are not widely shared. Other potential providers of finance would be able to obtain this or comparable information only with considerable effort. This asymmetry of information reduces competition in market, limiting the range of financing options available to growth firms. Wider availability of companies' past financial records – in addition to

basic credit scores – would reduce the information asymmetry and thus increase competition among potential lenders, to the benefit of borrowers.

National Central Banks in all 28 Member States should develop (or build on already existing) credit registers for growth companies. The ECB should collate all this information in a pan-European database so that companies are not limited to financing options available in one Member State.

Currently, 16 out of the 28 Member States have, or are in the process of, setting up central credit registers. As part of the SSM the ECB will develop a pan-European central credit database for the Eurozone. Non-Eurozone countries should also participate in this project.

An important feature of central credit registers is the threshold above which reporting institutions are required to report data on their exposures. While the threshold in Germany is set at €1.5 million, in other Member States there is no, or a very low, threshold. These thresholds should be harmonised and lowered to ensure that all growth companies are covered.

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#### ► R11

#### **Central Banks, Regulatory Authorities and Credit Reference Agencies: work together to develop credit scoring standards for growth companies to allow cross-border access and comparative analysis**

In order not to be over-reliant on the modelling and judgement of credit reference agencies, alternative finance providers ideally need access to the underlying data. While this is an important aim, in the meantime standards of credit scoring assessments for growth companies, including common minimum quality standards, should be developed. Credit Reference Agencies and Central Banks should cooperate on developing minimum standards to allow easy cross-border access and comparative analysis of their ratings. This would help address the lack of reliable information about growth companies and the related difficulty for potential investors in evaluating their credit worthiness.

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#### ► R12

#### **Financial Services Industry: enable growth companies to access the full range of finance opportunities**

Growth companies' ability to move between different providers of finance is underdeveloped. Companies need to be better informed about how to access other pools of finance. Information for growth companies must be simple, easy to use and easy to understand. The EU's finance portal, which provides up-to-date information on funding options for SMEs and entrepreneurs, is a welcome initiative. Private investors also need to play a bigger role in educating companies on their financing options, both through specially designed programmes and also by sign-posting alternative options and sources of information. Banks have an important role to play in informing companies which have failed to secure a bank loan about alternative sources of finance.

## CENTRAL CREDIT REGISTER – BANK OF ITALY

SMEs, and especially growth companies, are critical to ensuring economic growth is sustainable and inclusive. However, they often face significant obstacles to fulfilling their potential to innovate and create jobs as access to finance is often restricted. One reason for this is that potential providers of finance do not have the relevant information to assess their creditworthiness.

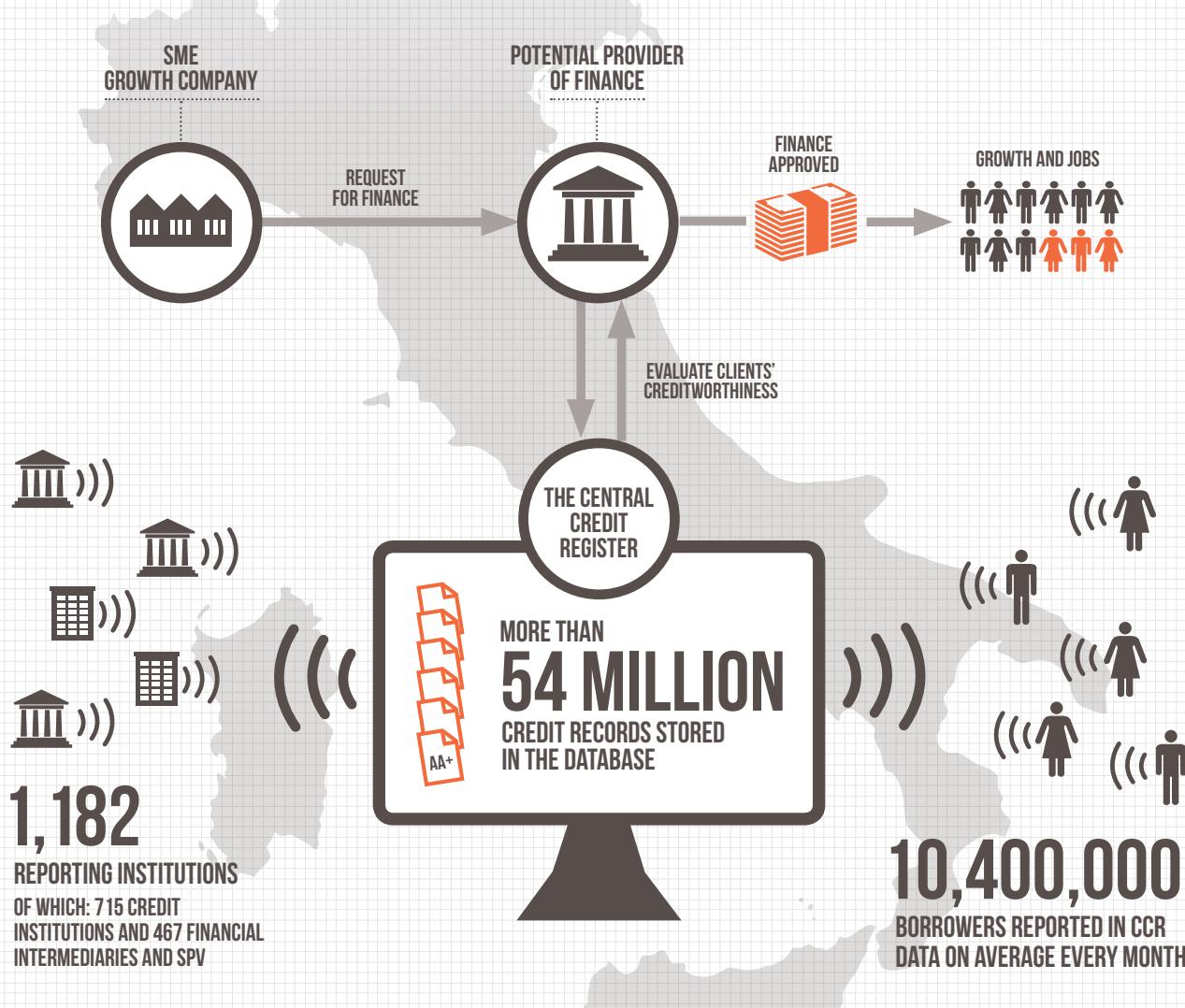
The empirical literature supports the development of central credit registers as they address the problem of asymmetric information and support the provision of credit (see Galindo and Miller (2001), Djankov, McLeish and Schleifer (2007) and

de Janvry, McIntosh and Sadoulet (2010)).

The Bank of Italy's Central Credit Register is an information system on the debt of the customers of the banks and financial companies it supervises. It provides intermediaries with a service intended to improve the quality of the lending of the credit system and ultimately to enhance its stability. Every month it collects positive and negative data concerning the credit facilities granted by each credit and financial institution to every single individual and corporate body. This information is a useful tool to evaluate clients' creditworthiness and, in general, for better credit risk

management. It fosters the sound and prudent management of reporting institutions and improves the quality of their lending, finally resulting in an increase of the overall stability of the credit and financial system.

The Central Credit Register is a Division of the Statistics Collection and Processing Department of Banca d'Italia. Reporting to the CCR is due when a client benefits from loans and guarantees whose total comes to €30,000 or more, or has issued a personal or real guarantee in favour of third parties for the same amount, or is exposed in financial derivatives for €30,000 or more.



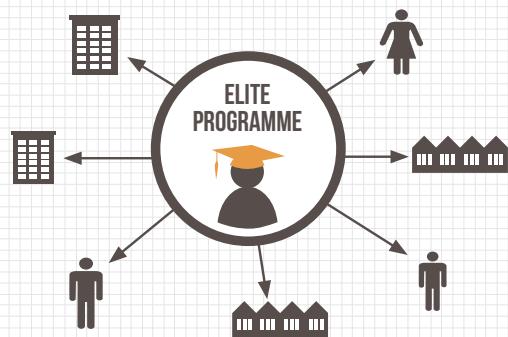
## SUPPORTING COMPANIES THROUGH THEIR NEXT STAGE OF GROWTH

Growth companies are those that account for a significant share of new jobs created and are key players in economic growth. Growth companies within the SME sector can include older firms in traditional sectors as well as younger, innovative, technology-based ones. SMEs overall represent over two thirds of employment in Europe. Their importance lies in their significant contribution to Europe's GDP (28%) as well as their ability to innovate, grow and create employment.

Growth companies often lack access to the resources they need to catalyse and sustain their growth. Support systems are important to help them access capital, managerial training, skilled workers, supply chains, facilities and new markets. The financial services industry can play a key role in providing this support.

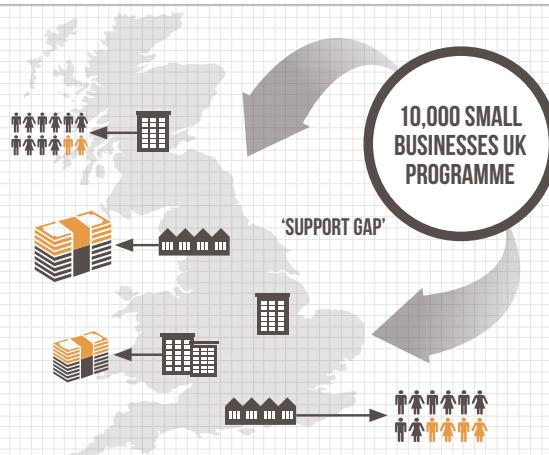
### ELITE PROGRAMME - BORSA ITALIANA/LONDON STOCK EXCHANGE

Launched in Italy in April 2012, the UK in April 2014 and pan-Europe in December 2014, ELITE is a community of entrepreneurs, business leaders, advisers, investors, public sector and academics to support businesses as they grow for the long term. The goals of ELITE are to drive cultural and organisational change and become more attractive to a wider range of investors – not all IPOs, but capital neutral e.g. outcomes have included 10 bond issuances (€300m raised); 13 private equity deals; 35 M&A/joint venture deals; €170m public sector investment. ELITE has an established presence, with 200+ companies, 150+ stakeholder partners, 70+ investors, 88,000 employees and €22.6bn total revenues of ELITE companies.



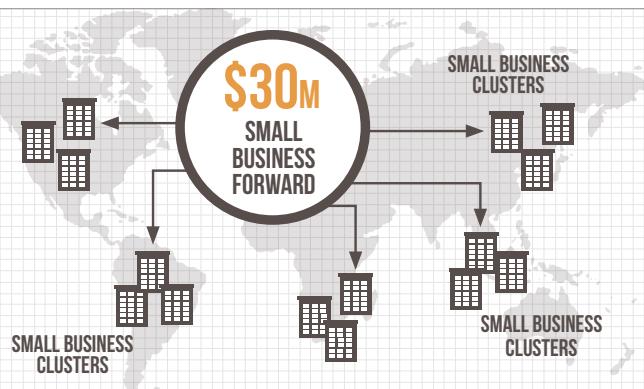
### 10000 SMALL BUSINESSES – GOLDMAN SACHS

Goldman Sachs launched its 10,000 Small Businesses UK programme in 2010 to specifically address the support gap for small enterprises, helping them to unlock the economic and job creation potential of their businesses. The programme is designed by leading experts and is run partnership with some of the UK's top business schools in four regions. 250 leaders of high-growth potential businesses and social enterprises participate in the programme each year across the UK with 77% of participants creating net new jobs and 66% growing revenues.



### SMALL BUSINESS FORWARD – JPMORGAN CHASE & CO.

According to research sponsored by JPMorgan Chase & Co. that examined clusters' contributions to economic growth in the ten largest U.S. metropolitan areas, dominant clusters outpaced overall regional growth by more than 300 percent between 2003 and 2011. Small Business Forward's \$30 million, five-year initiative draws on these insights to support the formation, growth and success of small business clusters around the world that will help small business owners to build successful businesses.



## 4.3 New business ecosystems for infrastructure

Long-term financing of infrastructure in Europe rests on a narrow range of instruments. Capital markets complement the traditional and central role of banks as credit intermediaries and lending entities. Without deep capital markets, long-term infrastructure investment relies on a narrow set of financial instruments including some with short maturities or volatile underlying financing sources.

Borrowers in different Member States need a full range of options for financing, including bank loans with longer maturities, equity and bonds. Long-term instruments offer a degree of insulation from the volatility of the business cycle and minimise the potentially disruptive effects of wide-spread maturity mismatches. Deep and robust capital markets provide a variety of options for the needs of diverse borrowers. A shift from the role that banks play as credit intermediaries and lending entities will take time. Systemic stability considerations need to be taken into account as this takes place, mindful of potential future risks.

Institutional investors, such as insurers and pension funds have significant capacity to provide infrastructure funding if various regulatory uncertainties and concerns are resolved. An important challenge for private investors is an unstable regulatory framework. Promoting objective discourse between public and private sectors that is open-minded and free from ideology will enable a stable regulatory framework to support the long-term strategic infrastructure vision of Member States' governments.

New business ecosystems for infrastructure	
Recommendations	
► R13	<b>European Commission:</b> develop new, relevant and innovative financial instruments under clear rules to encourage investment in long-term assets
► R14	<b>European Commission:</b> conduct an assessment on the impact of the cost capital on the tax bias against equity
► R15	<b>Public and Private Sector Investors:</b> create innovative tools such as syndicated loans through a co-investment partnership to improve cooperation
► R16	<b>European Commission:</b> create a European infrastructure forum to accelerate the development of infrastructure as an asset class, working with the G20 Global Infrastructure Hub
► R17	<b>Financial Services Industry:</b> invest in dedicated infrastructure teams to ensure that projects are staffed by experts
► R18	<b>Public and Private Sectors:</b> build expertise and capacity through workplace exchanges

**➤ R13**

**European Commission: develop new, relevant and innovative financial instruments under clear rules to encourage investment in long-term assets**

European Long-Term Investment Funds (ELTIFs) are an example of innovative financial instruments to encourage investment in longer-term assets. The range of eligible assets covers growth companies and other SMEs and infrastructure projects as well as real estate and intellectual property. The broad scope of investors to which ELTIFs are allowed to be marketed facilitates new money being invested into infrastructure projects. It will be important that the industry works closely with regulators as ELTIFs is being transposed into national regulation to inspire investor confidence to supply finance.

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**➤ R14**

**European Commission: conduct an assessment on the impact of the cost capital on the tax bias against equity**

Debt has been favoured over equity for long-term financing by a large majority of corporate tax and legal environments in Europe and internationally. This bias towards debt has developed over time. Allowing the deduction of debt interest costs has incentivised debt financing, while there is no similar treatment for the costs incurred in raising equity. This tax bias towards debt financing may incentivise companies to take on more debt and discourage innovative investment strategies.

This fiscal bias against equity needs to be recalibrated to reduce incentives for companies to use leverage and debt and encourage the entrepreneurial culture for which equity can be the most suitable form of finance.

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**➤ R15**

**Public and Private Sector Investors: create innovative tools such as syndicated loans through a co-investment partnership to improve cooperation**

The cooperation between private and public sector investors could be improved and expanded through the use of innovative tools, such as syndicated loans. Syndicated loans can take the form of a co-investment partnership, which would strengthen the relationship between a bank and one or more institutional investors.

A typical syndicated loan is issued to a single borrower jointly by a group of lenders. These lenders are usually banks, but they can also include other financial institutions and public sector investors. The lead bank (or banks) promotes the loan to other potential lenders. Often each participant is responsible for its particular share of the loan and has no legal responsibility for only the other participants' share. Procurement issues in Europe which currently limit the use of syndicated finance should not be difficult to resolve.

## ► R16

### **European Commission: create a European Infrastructure Working Group to accelerate the development of infrastructure as an asset class, working with the G20 Global Infrastructure Hub**

The creation of a European Infrastructure Working Group (EIWG) would build on initiatives such as the European Bank for Reconstruction and Development's (EBRD) and the Infrastructure Project Preparation Facility (IPPF). The aim would be to improve the efficiency and replicability of infrastructure projects through integration of project preparation services with systematic policy dialogue. The EIWG would bring together borrowers, banks, non-bank investors, industry, the European Commission, Member State Governments and regulators. Its purpose would be to foster dialogue as well as knowledge-sharing between the public and private sector.

The EIWG would also serve as a European Public Private Partnership (PPP) centre of excellence to share experience and expertise, analysis and best practice relating to all aspects of PPPs by publishing policy guidance and statistics on PPPs to give advice to those undertaking or wishing to undertake PPP infrastructure projects.

The EIWG should be linked to the G20 Global Infrastructure Hub which is being set up in Australia and aims to work closely with international organisations to collect and disseminate best practice in infrastructure investment and planning. Its objectives are to increase the pipeline of investible projects, improve the productivity of investments and accelerate the development of infrastructure as an asset class.

The African Development Bank, the Asian Development Bank, the EBRD, the EIB, the Inter-American Development Bank, the Islamic Development Bank, the World Bank and the International Monetary Fund have all agreed to contribute to this project.

The European Commission's proposal to establish a European Investment Advisory Hub (EIAH) which builds on the EIB and Commission's advisory services is welcome. The EIAH will provide advisory support for investment project identification, preparation and development and act as a single technical advisory hub (including on legal issues) for project financing within the EU. This initiative would complement the European Infrastructure Forum, which is where the public and private sectors can develop policy together.

## ► R17

### **Financial Services Industry: invest in dedicated infrastructure teams to ensure that projects are staffed by experts**

The Financial Services industry should invest in dedicated infrastructure teams to ensure that projects are staffed appropriately by experts and that expertise is deployed across all project areas.

► **R18**

**Public and Private Sectors: build expertise and capacity through workplace exchanges**

A good understanding of the public and private sectors' respective roles and objectives in infrastructure investment and projects is key to ensuring successful cooperation. Attracting, retaining and developing talent and expertise on infrastructure could be enhanced through workplace exchanges between the public and private sectors. These placements would have the potential to be career enhancing for the individual as well as capacity strengthening.

## **4.4 New business ecosystems for growth companies**

Lending to growth companies is often local, short-term and revolving. This does not suit non-bank business models and acts as a significant barrier to long-term investment in growth companies. The European private placement market lacks the scale to provide faster and more flexible access to non-bank sources of finance for growth companies.

<b>New business ecosystems for growth companies</b>	
<b>Recommendations</b>	
► <b>R19</b>	<b>European Commission and ECB:</b> review regulatory framework to remove obstacles to securitisation
► <b>R20</b>	<b>Financial Services industry:</b> promote the growth of private placement markets
► <b>R21</b>	<b>European Commission:</b> develop Enterprise Networks that extend across Member State borders to improve the risk rating and reduce the cost of finance for growth companies
► <b>R22</b>	<b>Financial Services Industry:</b> develop new private equity instruments such as funds-of-funds to increase non-bank finance available to growth companies
► <b>R23</b>	<b>EIB and EIF:</b> provide appropriate funding vehicles to enhance collaboration between public and private investors
► <b>R24</b>	<b>Member States Governments:</b> create national information and education resource for growth companies to learn about being 'investor ready'
► <b>R25</b>	<b>European Commission and ESMA:</b> Support the SME Growth Market classification created by MiFID

## ► R19

### **European Commission and ECB: review regulatory framework to remove excessive obstacles to securitisation**

A market for prudently designed Asset-Backed Securities (ABS) has the potential to improve the efficiency of resource allocation in the economy and to allow for better risk sharing. It does so by transforming relatively illiquid assets into more liquid securities. These can then be sold to investors, thereby allowing originators to obtain funding and potentially transfer part of the underlying risk, while investors in such securities can diversify their portfolios in terms of risk and return. This can lead to lower costs of capital, higher economic growth and a broader distribution of risk.

The prudential regulatory framework must be carefully reviewed and adjusted to ensure that it does not stifle market revival and is implemented coherently. Initiatives, such as the forthcoming review involving the European Commission and the ECB to promote a functioning market for ABS, collateralised by loans to non-financial corporations, are to be welcomed.

Improvements in disclosure of transaction documentation and performance information are envisaged by the European Securities and Markets Authority (ESMA). There is also scope for additional standardisation of prospectuses and investor reports. The case for any further developments should be built on a robust cost-benefit analysis. With the loan-level information that central credit registers could provide, along with improved information from ABS disclosures and other sources, investors could develop their own credit models and risk metrics.

## ► R20

### **Financial Services Industry: promote the growth of private placement markets**

According to the International Capital Markets Association (ICMA), a pan-European Private Placement (PEPP) market could be worth around **€21 billion** in additional finance per year. Private placements are privately placed debt instruments issued directly to institutional investors. The focus at this stage is on unlisted, unrated mid-caps as the main users and beneficiaries and on institutional investors as the primary source of capital. Well-established private placement markets in the USA, Germany and France are attracting foreign companies in significant numbers which shows that there is strong international demand for this type of financing.

Greater dialogue is required between policymakers and the sector on the necessary steps to determine the barriers and enablers for growth of private placement markets across European Member States. These include the lack of favourable tax treatment and standardised documentation.

In the UK Government's recent Autumn Statement (December 2014) it was announced that the 2015 Finance Bill will include a tax exemption from withholding tax if it is interest on a qualifying private placement. This initiative is welcome.

Another barrier to the development of a PEPP is the lack of standardised documentation. ICMA has published a PEPP guide focused on market and product definitions, common practices and principles; and standardised documentation. The Loan Market Association (LMA) has produced template documents for use in European private placement transactions with a view to achieving greater efficiencies by providing a common framework and language for those involved in these transactions.

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**► R21**

**European Commission: develop Enterprise Networks that extend across Member State borders to improve the risk rating and reduce the cost of finance for growth companies**

Enterprise Networks in Italy facilitate the aggregation of different enterprises to foster their competitiveness and innovation in both domestic and foreign markets. An Enterprise Network which receives a positive evaluation for its business plan is enabled to gain access to finance.

The positive evaluation of the Network's business plan can also improve the risk-standing of participating firms resulting in a reduction of financing cost for them. Developing harmonised rules at EU level on the working of such business networks could favour the aggregation of growth companies from different Member States thereby improving further their financial and commercial standing and their access to finance. The European Commission should learn from the Italian model and encourage other Member States to follow their example under harmonised rules developed by the European Commission.

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**► R22**

**Financial Services Industry: develop new private equity instruments such as fund-of-funds to increase non-bank finance available to growth companies**

There is a need for easier access to bank and non-bank finance for growth companies. One way this could be achieved is by developing the venture capital sector through the use of fund-of-funds. Initiatives such as EVFIN (European Venture Funds Investors Network) which was launched in 2011 with the aim of developing pan-European fund-of-funds is welcome. This would increase volumes while not being constrained by bank, insurance and pensions prudential regulations that currently restrict resources in the sector.

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**► R23**

**EIB and EIF: provide appropriate funding vehicles to enhance collaboration between public and private investors**

One way to increase funding for growth companies is to establish Member State Government-backed growth company support agencies, as well as making full use of EU structural cohesion funds. These initiatives should build on and learn from previous or existing frameworks. In this way guarantees could be offered that would make funding growth company loans more attractive and less risky, either through

direct involvement or through securitisation structures. It is important that the public sector does not crowd out the private sector.

The KfW (Kreditanstalt für Wiederaufbau) Banking Group is a German government-owned bank that lends to SMEs and buys securitized small and midsized business loan portfolios from German banks. It also provides funds for housing, infrastructure, environmental protection and preservation and venture capital.

The UK's Business Growth Fund (BGF) is another example that could, with some adaptation, be applied more widely within Europe. The EU could agree to co-invest alongside local banks and other investors (such as pension funds, pension providers and insurance companies) in local funds of this nature. This investment could be channelled through the EIB and EIF to ensure that there is an appropriate infrastructure to oversee these investments.

#### ► R24

##### **Member States Governments: create national information and education resources for growth companies to learn about being 'investor ready'**

Better financial education of growth companies would allow them to explain their business models in an investor-friendly way. Improving the relationship between growth companies and investors is particularly important as they find it increasingly difficult to access traditional bank finance. All Member States should set up a central user-friendly platform that helps growth companies to become investor-ready, taking into consideration specific national regulation and cultural requirements of which they need to be aware. Building on the EU's finance portal, these platforms should also provide information on government grants and alternative financing options.

#### ► R25

##### **European Commission and ESMA: support the SME Growth Market classification created by MiFID**

There are at least 15 equity markets across Europe for which future classification under the MiFID II SME Growth Markets regime could be suitable. They are currently home to over 1,700 companies valued at over **€180 billion**. Making it easier and cheaper for cross-border investment on these markets would improve investor confidence and the supply of equity to growth companies and SMEs. Key steps to achieve this include:

- Prospectus Directive review: abolishing the need for a prospectus in the case of secondary issues would make it easier for smaller companies to get additional funding based on an existing listing. Raising the threshold for the number of investors above which a requirement to issue a prospectus is triggered from 150 to at least 500 would facilitate business progression for companies at different stages of growth.
- Greater supervisory convergence: ESMA should ensure that Member States are implementing the Single Rule Book as intended and ensure that EU-regulated firms and issuers are operating on a level playing field, wherever they are incorporated in the EU.

## **4.5 Sustainable finance for infrastructure and growth companies**

Various sources act as providers of long-term finance for infrastructure including domestic and foreign households, corporations, and governments. Funds may also come from household income and wealth, corporate earnings, and government revenues. Long-term finance also flows through various intermediaries such as insurance funds and pension funds as well as banks. Alternatively the intermediation may be undertaken by capital markets with the precise balance within this intermediation process between financial institutions and capital markets currently varying across the EU.

A key principle in governing the provision of long-term finance in infrastructure (as well as growth companies) is for the financial system to channel savings from households and corporations into an adequate supply of financing with long maturities to meet the growing investment needs of Europe's economies.

Europe needs to invest in infrastructure, education, R&D, housing and business expansion. To that end, the financial system needs to be able to fulfil its core function of providing the capital that allows businesses, governments and households to invest in Europe's future.

### **Sustainable finance for infrastructure and growth companies**

#### **Recommendations**

► <b>R26</b>	<b>European Commission:</b> promote international capital towards European projects
► <b>R27</b>	<b>Insurance Companies, Pension Funds and Pension Providers:</b> develop innovative products to manage investment risk, provide longevity protection and enhance lifetime income for Europe's ageing population
► <b>R28</b>	<b>EIOPA:</b> improve existing regulation to enable safe investment in illiquid assets
► <b>R29</b>	<b>Member States Governments:</b> launch a study into how auto-enrolled or mandatory savings programmes could help finance long-term infrastructure projects across Member States

## ENSURING SUSTAINABLE SUPPLY OF FUNDS THROUGH AUTO-ENROLMENT

Long-term household savings are a source of long-term finance. Building up a pension fund both provides an income in retirement for the saver and helps policymakers to address the challenge of an ageing population. The Financial Services industry and policymakers are exploring such things as behavioural economics to encourage long-term savings by households through both State and private pensions.

Evidence from evaluation of long-term savings initiatives that involve automatic enrolment into schemes suggest that factors that

influence include the extent and appeal of how savings contributions made by consumers are matched by the employer and government. This was found to be a factor in the success of individual automatic enrolment initiatives in the US. It increased participation rates into saving schemes by up to 41%.

Some Member States have moved ahead with reforms to induce saving at an earlier stage. In the UK, through auto-enrolment schemes – which automatically opts employees into pensions schemes – began in 2012 as a major step to addressing under-saving in pensions.

### AUTO-ENROLMENT IN THE UK

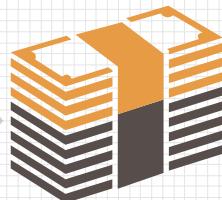


**11 MILLION  
PEOPLE  
AND  
1.2 MILLION  
EMPLOYERS ARE ELIGIBLE  
FOR AUTO ENROLMENT**



AUTOMATICALLY\_OPTS  
EMPLOYEES INTO  
PENSIONS SCHEMES  
BEGAN IN 2012

SAVING UP TO 8%  
OF THEIR SALARY  
INTO A PENSION



**4-8 MILLION  
EXTRA SAVERS WILL  
LEAD TO AN ADDITIONAL  
£10-15 BN  
OF ANNUAL RETIREMENT  
SAVINGS BY 2050**

### AUTO-ENROLMENT IN NEW ZEALAND

**2.3 MILLION  
PEOPLE ARE ENROLLED**



**70%**  
OF 18-24 YEAR OLDS ARE  
CURRENTLY PARTICIPATING

KIWI SAVER  
SCHEME

**£21 BN**  
MARCH 2014



INTRODUCED IN 2007 –  
WAS THE WORLD'S FIRST NATIONAL  
AUTO-ENROLMENT PROGRAMME

LUMP-SUM  
DEPOSITS TO BUY  
FIRST HOMES

INVESTMENT  
INTO LONG-TERM  
ASSETS



➤ **R26**

**European Commission: promote international capital towards European projects**

If capital requirements were approached in a way that emphasised both stability and growth, then insurance companies, pension funds and pension providers would be better able to invest in Europe's infrastructure. European banks, the traditional sources of long-term financing, are deleveraging. The lack of funded pension systems in the EU and the need to attract international capital will be a big part of any solution. Possible solutions to the financing gap for infrastructure include:

- US-dollar debt tranches: the US private placement market is a good source of liquidity for EU issuers;
  - 'Swap breakage' clauses would help mitigate FX risk and help attract non-EU capital;
  - Simplifying the procurement process in state-sponsored infrastructure projects would level the playing-field between banks and institutional investors.
- 

➤ **R27**

**Insurance Companies, Pension Funds and Pension Providers: develop innovative products to mitigate investment risk, provide longevity protection and enhancing lifetime income for Europe's aging population**

Consumers need access to products backed by long-term assets which use capital markets effectively to meet a range of long-term needs. These include providing an income throughout retirement and insuring against health and long-term care costs.

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➤ **R28**

**EIOPA: review existing regulation to enable safe investment in illiquid assets**

In order to support EIOPA in recalibrating regulation, data collection exercises bringing together the private sector and governments for the purpose of collection will be needed.

Australia has shown how substantial infrastructure investment is possible in a Defined Contribution pension system. Investment in illiquid asset classes (such as unlisted infrastructure) can be difficult, especially when individuals have the option to switch funds easily. In a Defined Benefit system, solvency and funding regulation can make long-term investing more difficult, as requirements for illiquid assets are typically tighter than for liquid assets. In Australia and Canada, investment and pensions regulation allows pension funds to invest in illiquid assets to a higher degree than in most other countries.

While there is often a reluctance to see resources locked-up in illiquid assets, there is also an understanding of how mature infrastructure projects offer investors long-term stability. Due to the long-term nature of their liabilities and their business model, pension funds are able to absorb the risk of illiquid assets. To support long-term investment strategies by institutional investors it is important that taxation rules and risk-based capital requirements are designed appropriately, so that safe investment in illiquid assets is enabled.

EIOPA can support more proportionate and risk-sensitive prudential treatment for institutional investors. Progress has been made on the Solvency II regime that mitigates some of the negative impacts that threatened the ability of insurance companies, pension funds and pension providers to make long-term investments in infrastructure and this progress is welcome. As work continues on the development of a single prudential rulebook which will apply to all insurers and reinsurers operating in the EU, continued vigilance will be needed to ensure that long-term assets can be matched with long-term liabilities to enable the financing of infrastructure projects that are essential to Europe.

If Europe's insurers are able to reduce the amount of capital they hold against high quality securities they will be better placed to invest in Europe's infrastructure. Proposals in the Delegated Act cover securities guaranteed by the European Investment Fund or European Investment Bank as well as investments in closed-ended, unleveraged investment funds, including specialist infrastructure funds. It is important to review whether this scope is appropriate and if there is a need to expand it further.

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#### ► R29

#### **European Commission: launch a study into how auto-enrolled or mandatory savings programmes could help finance long-term infrastructure projects across Member States**

Most UK employers are legally obliged to automatically enrol their employees into pension schemes with contributions being deducted from salaries through payroll. The use of auto-enrolment or mandatory long-term savings programmes can channel private funds in the long-term into infrastructure investments in a way that is mutually beneficial to the needs of savers and infrastructure renewal.

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## GLOSSARY

**Asset-Backed Securities:** a financial security backed by a loan, lease or receivables against assets other than real estate and mortgage-backed securities. For investors, asset-backed securities are an alternative to investing in corporate debt.

**Cohesion Fund:** funds aimed at Member States whose Gross National Income (GNI) per inhabitant is less than 90 % of the EU average. It aims to reduce economic and social disparities and to promote sustainable development.

**Debt financing:** the raising of capital by a firm for working capital or capital expenditures by selling bonds, bills, or notes to individual and/or institutional investors. In return for lending the money, the individuals or institutions become creditors and receive a promise that the principal and interest on the debt will be repaid.

**Equity financing:** the raising of capital through the sale of shares in an enterprise. Equity financing essentially refers to the sale of an ownership interest to raise funds for business purposes. While the term is generally associated with financings by public companies listed on an exchange, it includes financings by private companies as well. Equity financing is distinct from debt financing, which refers to funds borrowed by a business.

**Fund-of-funds:** a fund that invests in other funds allowing investors to achieve a broad diversification and an appropriate asset allocation with investments in a variety of fund categories that are all wrapped up into one fund. However, if the fund-of-funds carries an operating expense, investors are essentially paying double for an expense that is already included in the expense figures of the underlying funds.

**Growth companies:** enterprises that account for a significant share of new jobs created and are key players in economic growth. Within the SME sector they can include older firms in traditional sectors as well as younger, innovative, technology-based ones.

**Private placement:** the raising of capital through the sale of securities to a relatively small number of select investors. Investors involved in private placements are usually large banks, mutual funds, insurance companies, pension funds and pension providers. Private placement is the opposite of a public issue, in which securities are made available for sale on the open market.

**Security:** generally a transferable financial instrument which represents an ownership interest in a corporate (also known as equity security or stock) or the debt of a corporate or government (also known as a bond). Other forms for debt can be turned into securities through securitisation.

**Syndicated loan:** a loan offered by a group of lenders (called a syndicate) who work together to provide funds for a single borrower. The borrower could be a corporation, a large project, or sovereignty (such as a government). The loan may involve fixed amounts, a credit line, or a combination of the two. Interest rates can be fixed for the term of the loan or floating based on a benchmark rate.

**Venture capital:** financing provided by investors to start-up firms and small businesses with perceived long-term growth potential. This is a very important source of funding for start-ups that do not have access to capital markets. It typically entails high risk for the investor, but it has the potential for above-average returns.

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## APPENDIX: ECONOMIC MODELLING METHODOLOGY

For the panel-data model, baseline macroeconomic indicators such as real GDP growth and employment are sourced from the IMF. The underlying data on infrastructure investment is sourced from EUKLEMS Growth and Productivity Accounts and the OECD's StatExtracts; the data are fully consistent between the two sources. Time-series data is available from 1970, but the homogenous data required for the purposes of this model is available only from 1995 onwards.

Due to the shortness of the time series, use of a VAR model was ruled out. Instead a panel-data econometric model has been used to estimate the impact the impact on employment and GDP growth from a discrete, one-off increase in infrastructure investment. A panel-data set tracks a sample over time and has the advantage of being able to reduce the problem (identified at an early stage) of multicollinearity.

The model estimates the impact on real GDP growth and employment arising from a 5-basis-point increase in the rate of growth of infrastructure spending. The regression specification includes an estimation of the elasticity of response of infrastructure investment specific to each country; this is crucial to the robustness of the results, since it captures the diminishing marginal returns of infrastructure investment and explains the results discussed below.

The regression specification to estimate impact on Employment (L) is:

$$\ln(L_i, t) - \ln(L_i, t-1) = a_i + b_i \cdot [\ln(\text{Infras\_Inv}_i, t) - \ln(\text{Infras\_Inv}_i, t-1)] + c \cdot X_i, t + e_i, t$$

$$\text{with } b_i = b_1 + b_2 \times \ln(\text{GDPxCAP}_i, t)$$

The regression specification to estimate impact on GDP is:

$$\ln(\text{GDP}_i, t) - \ln(\text{GDP}_i, t-1) = a_i + t + b_i \times D[\ln(\text{Infras\_Inv}_i, t) - \ln(\text{Infras\_Inv}_i, t-1)] + c \cdot X_i, t + e_i, t$$

$$\text{with } b_i = b_1 + b_2 \times \ln(\text{GDPxCAP}_i, t)$$

in which  $a_i$  are country fixed effects, included to take account of structural differences in countries' growth rates;  $t$  are time fixed effects, included to take account of global shocks such as shifts in oil prices or the global business cycle; and  $\text{Infras\_Inv}$  is the infrastructure investment and  $X_i, t$  are a set of additional controls. The response of employment and GDP growth are calculated using the estimated coefficient  $b_i$ .

The model is representative, covering 20 countries chosen on the basis of data availability and consistency. The model assumes that employment is a function of economic growth, not that growth is a function of employment (via income growth and private consumption, for consumption-oriented economies). "Infrastructure" includes transport & storage, and electricity, gas and water; the model looks at aggregate infrastructure investment.

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## NOTES

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## NOTES

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