Growth recipes
The need to strengthen private capital markets

Several recipes for growth are proposed from the perspective of a long-term oriented investor. Strengthening private capital markets is crucial for financial market resilience and growth.
Strong private capital markets are key for sustainable economic growth.

To improve access to risk pools and support financial market resilience, we propose several measures. These include a more growth-friendly policy mix, standardising infrastructure debt to become a tradable asset class and more equity-like instruments such as GDP-linked sovereign bonds.
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Central banks’ crisis policies need to be unwound in an orderly manner and should be replaced with sustainable economic growth policies.
Executive summary

Eight years have passed since the global financial crisis and global economic growth remains modest and fragile despite exceptionally accommodative central bank policies. Instead of proposing “more of the same”, this report advocates measures to strengthen private capital markets and reforms to increase economic growth. A comprehensive policy approach, including concrete structural reforms and targeted fiscal stimulus, is needed to increase financial markets’ resilience and sustainably lift economic growth.

The financial market landscape has changed significantly since the global financial crisis with central banks having become dominant market players. Central bank balance sheets have risen to unprecedented levels due to asset purchase programmes. These measures are crowding out many long-term oriented financial market participants. The change in market ownership from private to public players has had several unintended side effects. These include asset price distortions and reduced market liquidity, both of which have led to increased market risk exposures. These risks are now also appearing in public sector balance sheets in the form of record high debt levels and, more generally, in inflated asset prices.

Central banks’ crisis policies need to be unwound in an orderly manner and should be replaced with sustainable economic growth policies. We are well beyond the point where accommodative monetary policy can effectively boost economic growth. In fact, world labour productivity growth has slowed down to subdued levels over the past ten years. Policymakers should undertake a clear, concise and well-sequenced structural reform agenda. Both product market and labour market reforms are needed and can already yield short-term benefits.

Households have suffered from the current public policy mix and, due to lower interest rate income, have had to increase their rate of savings. They are not alone in bearing the costs: low interest rates also affect the role of long-term investors by reducing their ability to invest over periods longer than a full economic cycle. This has had a broad impact on financial stability. Long-term investors provide economic risk capital and help to diversify sources of funding to the real economy. The re/insurance industry, for example, manages about USD 27trn of assets globally, with about one-third of that in Europe alone. Together with pension funds, sovereign wealth funds, endowments and foundations, global assets under management by long-term investors amount to more than USD 70trn. The public sector’s dominance in financial markets’ price discovery processes needs to be reduced, while new and innovative asset classes and products should be promoted. To improve prospects for growth, and to increase financial market resilience, the risk capital provided by long-term investors should be put to more efficient use.

Given the significant influence capital markets have on economic growth, this report proposes several “growth recipes” from the perspective of a long-term oriented investor. All of them have one common denominator: to allow private capital markets to fulfil their role and strengthen financial market resilience.
The change in capital markets – the new age of public intervention

The financial market landscape

Global interest rates have been on a downward trend since the 1990s, but the decline accelerated after the global financial crisis. While structural forces partially explain this trend, central banks also play an important role. Since the collapse of Lehman Brothers in 2008, the world’s top 50 central banks have cut interest rates more than 670 times. To give an indication of how unprecedented the current market environment is, about USD 13tn of global government debt and about two-thirds of European sovereign bonds were trading in negative territory during the summer of 2016. In July 2016, Germany became the first country in the Eurozone – the second in the Group of Seven (after Japan) – to issue a 10-year zero-coupon government bond at negative yields. Switzerland had already issued a 10-year sovereign debt at a negative yield one year earlier in April 2015.

Besides interest rate cuts, central banks have also engaged in unconventional monetary policies, including several rounds of quantitative easing (QE). Although asset purchase programmes were conducted pre-crisis, the combined size of QE programmes seen since the global financial crisis is unprecedented. Since 2005, total assets held by G4 central banks have increased by roughly 300%, whereas the total market size of outstanding securities has increased by less than 50%. Successive rounds of QE and market interventions have inflated central bank balance sheets to levels not seen since World War II.

The bulk of the central bank asset purchases after the global financial crisis are government bonds. Figure 1 shows that the four largest central banks currently hold between 20% and 40% of their domestic government bond markets. Since its introduction of quantitative and qualitative easing (QQE) in April 2013, the Bank of Japan (BoJ) has seen the sharpest ever increase in its share of Japanese Government Bond (JGB) holdings (as % of the government bond market outstanding), from 10% to 40%. The enormous increase in central bank demand for government bonds, together with regulatory changes, has inflated asset prices and brought yields to unprecedented low levels, even for long-dated securities. While the BoJ’s new monetary policy framework announced in September 2016 – “QQE with Yield Curve Control” – is an invitation for a more active fiscal policy and is, as such, another step towards “helicopter money”, the BoJ also runs a greater risk of further losing its independence and market confidence.

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2 E.g. “Operation Twist” was a policy conducted by the US Federal Reserve for the first time in 1961. It sold short-term government bonds and bought long-dated treasuries in an effort to push down long-term interest rates and therefore boost the economy
3 Total market size is calculated as the aggregate amount of fixed income and equity securities across the US, UK, Japanese and Eurozone markets. Sources: Bank for International Settlements, Bloomberg and World Federation of Exchange
5 The JGB yield curve will be controlled by fixing 10-year JGB yields at around 0% while allowing for more flexibility on purchases. It thus shifts the focus from quantitative measures to interest rates, targeting both short- and long-term rates
6 Although the original idea of “helicopter money” describes central banks making payments straight to individuals, economists have used the term “helicopter money” to refer to a wide range of different policies, including the “permanent” monetisation of budget deficits which is nothing else than the old-fashioned idea of debt monetisation – with the additional element of attempting to shock beliefs about future inflation or nominal GDP growth
As discussed above, the sovereign bond market in particular shows significant signs of distortions, despite the increase in sovereign bond yields observed in November and December 2016. Using an econometric approach to estimate fair value yields, we regress 10y US Treasury yields on long-term inflation expectations, a current economic activity index and the unemployment rate. This approach shows that the estimate of the fair value for 10y US Treasury bond yields is about 1% higher than its actual level (Figure 2). Given the largely central bank-dominated “QE world”, such an approach towards yield estimation is, however, no longer warranted. Indeed, incorporating the Fed’s intervention to capture the effect of QE on yields (i.e. the Fed QE factor), shows that the implied fair value is actually not far from the current actual yield level. Hence, central banks’ unconventional monetary policies are a dominant factor contributing to keeping yields lower today than they otherwise would be.

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7 In our estimation we use the Goldman Sachs Current Activity Indicator
8 For the “Estimated Fair Value with Fed”, we use two explanatory variables: long-term inflation expectations and the Goldman Sachs Current Activity Indicator. The unemployment rate, however, is replaced with a “Fed QE factor”. This variable is defined as the stock of cumulative Fed QE purchases divided by the level of US GDP. Note that both approaches are based on monthly data since 2003.
Central banks are also active in markets other than sovereign bonds, including the corporate bond market. The European Central Bank (ECB), for instance, started its corporate sector purchase programme (CSPP) in June 2016 and has since bought EUR 38bn of non-financial investment grade (IG) corporate bonds. Since the announcement of the CSPP in March 2016, spreads of European IG corporate bonds have tightened by about 40bp. In fact, a significant part of European IG credit is now trading at close to zero, or even negatively. Research suggests that the bulk of the credit spread tightening seen in March 2016 was due to the ECB’s announcement of the CSPP. Cheaper funding might help the supply side of the economy in the short run, but it also means that corporate bond valuations are no longer driven by the fundamentals of the corporate issuers. In August 2016, the Bank of England also relaunched its corporate bond purchase programme.

Another example of central bank dominance is the European covered bond market, where the ECB is currently participating in its third covered bond purchase programme (CBPP3). As of 31 October 2016, the Eurosystem held over EUR 21Bbn of covered bonds on its balance sheet, which is more than 30% of the European covered bond market. Turning to Japan, the BoJ has also been active in the Japanese Exchange Traded Funds (ETF) market since 2014. The BoJ owned 60% of the USD 150bn market at the end of June 2016. At the current purchase pace of JPY 6trn per annum, the BoJ will be a top 10 shareholder in 99% of the Nikkei 225 companies by the end of 2017.

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9 As of 31 October 2016
10 Barclays index of euro denominated IG corporate credit, option adjusted spread, as of 31 October 2016
11 Bank of America Merrill Lynch estimates that about EUR 250bn of euro-denominated corporate bonds traded at negative yields in July 2016
13 The Eurosystem includes the ECB and the national central banks of those countries that have adopted the euro
14 Bloomberg, “The Bank of Japan’s Unstoppable Rise to Shareholder No. 1”, 14 August 2016
Central banks have become a key source of demand (flow) as holders of assets (stock), influencing asset prices and liquidity conditions. This has unintended consequences for proper market functioning, thereby crowding out private investors. Asset purchase programmes — with central banks acting as “buy-and-hold” investors — and regulatory changes have led to lower market liquidity. In combination with the financial market regulation introduced in response to the global financial crisis, the role of banks and brokers in market-making activities has weakened significantly. As a result, bid-ask spreads have also increased notably across different markets. An example of the impact of distortive monetary policies is the Bank of Tokyo-Mitsubishi UFJ’s — Japan’s largest bank — announcement in July 2016 to withdraw as a primary dealer for Japanese Government Bonds (JGBs).

Another important effect of central bank actions is the flattening of sovereign yield curves (Figure 3). Low/negative interest rates and a very flat yield curve have led to reduced net interest margins among banks, eroding their profitability. In particular, European banks have had to rebuild capital strength after the global financial crisis, which was challenging in a low growth environment. The average return on equity (RoE) of European banks is below 5%, which is significantly lower than their estimated cost of equity capital of above 14%. This is problematic and unsustainable as banks can only temporarily avoid passing negative rates on to their customers. As such, banks will continue to face an unhealthy mix of low RoE and uncertain income.

To lift global economic growth and foster financial stability, the banking sector’s capital strength is not a sufficient condition in itself. Banks also need to be profitable. Given the many headwinds, changes to the business models of banks may be necessary — and this will affect their capacity and willingness to lend, and subsequently the effectiveness of the monetary policy transmission mechanism. In this context, it is even more important to improve the functioning of private capital markets. Recent research also suggests that the monetary transmission mechanism might become less effective when interest rates are negative.

**Figure 3:**
Steepness of sovereign yield curves (10y-2y spread) since 2010

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15 A balanced view is provided by ICMA (2016), “Remaking the corporate bond market – ICMA’s 2nd study into the state and evolution of the European investment grade corporate bond secondary market.”
16 See FT article “Bank of Tokyo quits as primary dealer for Japanese government bonds”, 13 July 2016
The transition from private to public sector dominance in financial markets has also severely impacted long-term investors. For example, the pension sector has come under increased pressure given the low yield environment. Interest income has fallen significantly, while pension liabilities have increased due to the lower discount rates. In fact, the value of underfunded government pension liabilities for 20 OECD countries amounts to USD 78tn\(^{20}\). Artificially low yields push long-term investors into higher yielding assets such as corporate bonds.

At the same time, recent regulatory changes incentivise long-term investors, such as pension funds and insurance companies, to invest into government bonds. Partly due to the financial market regulatory changes, asset allocations of otherwise heterogeneous investors have become more homogenous\(^{21}\). This extends to other institutional and retail investors, adding to financial stability risks, especially once global monetary policy starts to normalise.

Furthermore, reduced market liquidity will continue to lead to bouts of heightened and unexplained market volatility. For example, the 2014 US Treasury market flash crash cannot be attributed to any single factor, but explanations include changes in the structure of the US Treasury market as well as electronic and automated trading. These developments may give rise to convergence in global asset allocation strategies (already induced by QE policy and regulation) and more “herd-like” investment behaviour. The consequence is higher financial stability risk. With the broken financial market structure leading to evaporating market liquidity at times of need (“liquidity illusion”), illiquid assets – which tend to be valued at a premium over more liquid ones – could structurally become more attractive.

The economic landscape

The global financial crisis was followed by one of the weakest recoveries on record. Economic growth has averaged 3.8% since 2010, compared to an average growth rate of 4.5% during pre-crisis years (2000-2007)\(^{22}\). The reasons are multifold, including a global debt overhang, declining productivity, changing demographics, and growing income and wealth inequality.

The global debt overhang

The already high global debt levels increased further following the global financial crisis\(^{23}\). The total debt of the non-financial sector has more than doubled since 2000, reaching USD 152tn in 2015, or 225% of world GDP. The increase in government debt in some developed market countries is particularly worrying, having reached unsustainable levels.

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\(^{22}\) Source: IMF WEO database, April 2016

Importantly, excessive debt weighs on economic growth. Amongst others, this is shown by Reinhart and Rogoff\textsuperscript{24}, who argue that prolonged periods of public debt/GDP ratios of 90% (or above) are associated with periods of lower economic growth (1% lower growth than during periods of low public debt). Some suggest that a public debt ratio of 70–80% of GDP may already negatively impact GDP growth\textsuperscript{25}. Moreover, debt overhang periods typically last for more than 20 years. The cumulative negative impact on growth can thus be significant. In 2015, there were 22 countries with a public debt/GDP ratio above 90\%\textsuperscript{26}, including the US, China\textsuperscript{27}, Japan, France and Canada.

It is widely acknowledged that there are three different channels to reduce debt: economic growth and fiscal adjustment, inflation, or default. Empirical evidence suggests that in the past, economic growth and fiscal adjustment were the main drivers behind sustainable debt reductions. At the same time, inflation played a relatively minor role\textsuperscript{28}. Unfortunately, the current environment of low growth and low inflation suggests that reducing the debt overhang is very challenging.

**The era of low productivity**

Potential output is the level of GDP that can be sustained over the long-term and is consistent with a stable inflation environment. The cyclical deviation of actual from potential growth is the output gap, and a critical component for setting the monetary and fiscal policies. Potential GDP consists of three components: labour, which is primarily driven by demographic factors; capital, the stock of physical productive capital in the economy; and total factor productivity growth (TFP), which measures how efficient labour and capital are deployed.

According to the IMF\textsuperscript{29}, potential output growth of developed countries began to fall in the early 2000s and deteriorated significantly due to the global financial crisis. Labour productivity, one of the components of TFP, has been declining for a longer time and explains the decline in potential output (Figure 4). Lower productivity ultimately results in lower potential output.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure4.png}
\caption{Declining global labour productivity (y/y growth)}
\end{figure}


\textsuperscript{26} Source: IMF WEO database, April 2016

\textsuperscript{27} China’s figure includes corporate debt, which is mostly issued by state-owned enterprises

\textsuperscript{28} Ali Abbas et al. (2013), “Dealing with High Debt in an Era of Low Growth”, IMF Staff Discussion Note, September 2013

\textsuperscript{29} IMF WEO April 2015, Chapter 3, “Where are we headed? Perspectives on potential output”
Looking at the US experience, TFP growth halved over the past decade. Many analysts attribute the decline to the diminishing benefit from technological innovation, as the tech boom of the 1990s has ended, as well as to a general slowdown in the pace of world-transforming innovation. There is also the unresolved issue of how well traditional macro statistics capture technological change and innovation.

But the fall in TFP growth is not just a US and IT-related phenomenon. As the Conference Board shows, world labour productivity growth slowed to just 1.7% in 2015, the lowest since the global financial crisis, led by sharp declines in the US and Japan, and a near-collapse in Brazil and Russia. Indeed, in its June 2016 Economic Outlook, the OECD also called on governments to implement structural reforms to boost productivity, by increasing spending on early education and innovation in order to lift the world out of its “low-growth trap”.

**Income and wealth inequality and the effect of the current policy mix on economic growth**

Ultra-low interest rates and extensive QE policies have not led to widespread benefits for the average household: although real GDP per capita has increased and financial markets have recovered since the global financial crisis, real median income, for example in the US and the UK, has decreased and offers a much more sober view of the world (Figure 5).

Since 2009, real GDP per capita in both the UK and US has increased by almost 10%. At the same time, the economic environment for the vast majority of the population in advanced and developing economies has become more challenging. Median income has actually decreased in the UK since 2009 and remains lower than at the beginning of 2000 in the US. This means that the financial situation of the median household in the UK or the US has not improved and even worsened for the US.

![Figure 5: GDP growth vs median income (rebased to 100 at Q1 2000)](image)

Source: Swiss Re, BCA

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31 Conference Board Productivity Brief 2015
32 OECD Economic Outlook (June 2016), Chapter 2
33 Based on data provided by BCA
The current public policy mix has a number of unintended side effects. First, it punishes savers through the very low interest rates. Savers are counteracting their forgone earned interest income by saving even more and spending less. Hence, low interest rates are an invisible tax. Central bank efforts to increase consumer spending in a low interest rate environment have so far produced the opposite effect of what was originally intended. In fact, in all countries where the monetary policy rate is negative, savings rates have increased. With subdued GDP growth rates and fragile consumption growth, the very low interest rates policy is not a sustainable growth-enhancing recipe.

Secondly, most households do not have large exposures to equities or alternative investments. As a consequence, the average household hardly profited from the asset price inflation. The OECD argues that, rather unsurprisingly, wealthier households on average have higher exposures to risky assets than relatively poorer households. As such, higher asset prices have led to increasing wealth inequality with lower income cohorts not only missing out on higher asset prices but also earning less interest income on their savings. Indeed, across OECD countries, the top 10% of households account for about 50% of total household wealth. Meanwhile, the bottom 60% of households owns only about 13% of total household wealth. Overall, the increase in financial and housing wealth has – at best – only marginally benefited the real economy through the “wealth effect”, while exacerbating wealth inequality.

Declining labour productivity further exacerbates income and wealth inequality, creating a negative feedback loop impacting future potential output growth.

The OECD argues that income inequality was primarily caused by a surge in the top 1% of incomes accompanied by stagnation for the low-income cohorts. Their research shows that the wider income distribution has been accompanied by a shift in the age profile of income poverty. In fact, young people now replace the elderly as the group most at risk of relative poverty.

One reason for higher income inequality is that the current policy mix is less redistributive in some countries when it comes to taxes and government transfer payments. Given the high debt among many countries, fiscal consolidation plans have often included public expenditure cuts, essentially weakening the redistributive forces of such fiscal policies.

Subdued income levels, be it in the form of lower wages or lower interest income, have had a negative effect on GDP, primarily through consumption. In addition, households with lower wealth and income often do not have the means to invest in education, which constrains the future labour input and hence the potential growth rate. Wealth inequality has severe repercussions for countries at large, particularly in the longer term and goes beyond the intergenerational aspects of fuelling the rise of populism.


Quantifying the side effect of the current policy mix

The extent of market distortions and how “financial repression” acts as a “tax” on savers is illustrated below. The key numbers are shown in Figure 6, representing the updated financial repression costs from the Swiss Re (2015) publication “Financial repression: The unintended consequences”.

Households in particular have suffered from substantial foregone interest income since the global financial crisis, totalling USD 960bn from 2008 to 2015. This is due to interest rates having declined significantly below their “fair value”, calculated as the potential real GDP growth rate plus central banks’ inflation targets. In particular, the costs to US households have almost doubled since the end of 2013. See also Box 1 for the estimated costs under a scenario of interest rates being at very low levels over the next three years.

Similarly, EU and US insurance companies have experienced a cumulative foregone yield income of USD 700bn since 2008, while pension plan liabilities have increased substantially, potentially leading to the future generations bearing the burden.

While a determined and swift policy action was needed in the immediate aftermath of the global financial crisis, such extreme application of extraordinary policies now does more harm than good as we are well past the crisis management phase.

Figure 6:
The consequences of financial repression, cumulative for 2008–2015 period

| Increase in US government gross debt (to 105% of GDP) | Increase in Fed balance sheet |
| ~USD 9.6trn | ~USD 3.6trn |

| Increase in ECB balance sheet | Decreased US household debt costs |
| ~USD 1.6trn | ~USD 1.4trn |

| Foregone yield income for EU & US insurers | Increase in government bond holdings by US financial sector |
| ~USD 700bn | ~USD 1.5trn |

| Increase in US households’ stock market wealth | Increase in defined-benefit pension liabilities in the US, UK and Germany |
| ~USD 14trn | +30–50% |

Source: Swiss Re

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36 E.g. see Reinhart, C. and B. Sbrancia (2015), “The liquidation of government debt”
Box 1: What if interest rates are at very low levels for the next three years?

We estimate the cost of financial repression in a world with very low interest rates levels. A scenario is assumed in which 10Y US Treasury yields do not rise above 2.0% sustainably before 2018. For the simulation exercise, 10Y German bund yields are assumed to not increase above 0.2% sustainably until 2018.

What are the implications for savers, i.e. households and long-term investors? As the disparity between actual interest rates and their “fair values” remains apparent, the foregone interest/yield income for both households and insurers over 2016-18 is expected to almost match those in the eight years following the global financial crisis (2008–2015). For instance, US households would suffer another USD 680bn of “lost” net interest rate income, after the USD 960bn loss over the 2008–2015 period (Figure 7).

The financial repression costs for UK insurers would even accelerate to USD 110bn over the next three years, compared with USD 38bn since the crisis.

To sum up, the current policy mix is negatively impacting savers, households and long-term investors alike, with the impact increasing over time. It increases income and wealth inequality, which constrains future economic growth. In addition, it encourages more extreme social and political outcomes, e.g. populism. To move away from financial repression and escape the low growth environment, alternative strategies need to be pursued that sustainably increase labour productivity and potential growth rates.
While determined and swift policy action was needed in the immediate aftermath of the global financial crisis, continuing these ultra-accommodative policies now does more harm than good.
Recipes for growth – a private sector perspective

Given the significance of capital markets on economic growth, several actions are proposed from the perspective of a long-term investor.

These are:

1. Less central bank intervention;
2. Implement structural reforms;
3. Pursuing a consistent, clear and reliable regulatory framework;
4. Promoting standardisation to establish new asset classes and improve their tradability;
5. Strengthening investor rights to protect from political risks;
6. Promoting public-private partnerships;
7. Increase “equity-like” financing through risk-sharing sovereign bonds; and
8. Creating a regulatory environment conducive to Blockchain.

Central banks: less is more

In regards to central bank policy actions, less would be more. The very accommodative monetary policies harm financial market functioning and do not support structural reforms. They also weaken the stabilising role of long-term investors in financial markets, and promote asset price inflation, which increases financial stability risks and contributes to increased wealth inequality. Low interest rates are an implicit tax on savers. The point where the benefits of central bank actions outweigh the costs is behind us.

Central banks were right to intervene aggressively in 2008/09, thereby preventing a complete financial meltdown. Likewise, thanks to the ECB, a collapse of the euro was avoided during the European sovereign debt crisis in 2010-12.

First, extraordinary monetary policies give the wrong incentives to governments. Ultra-low borrowing costs have led to governments postponing the much-needed growth-enhancing reforms. Moreover, ECB Executive Board member Benoit Coeure said in Q3/2016: “If there is not much taking place on the structural-reform front, if there’s not much taking place on the fiscal-policy front for what can be done, then the ECB will do more.”

Second, unconventional measures such as asset purchase programmes have unintended consequences for financial markets. Distortive monetary policies are increasingly challenging the proper functioning of the insurance and pension industries. At the same time, central bank dominance results in a “hunt-for-yield” environment, which ultimately puts financial stability at risk.

Third, the low interest rate environment over the past years has not proven to be beneficial for economic growth. Instead of consuming more, households have increased their savings. Generally and despite the abundant central bank liquidity, investment growth has failed to pick up.

Following the global financial crisis, most central banks have decided to err on the side of action. This has trade-offs. We have reached a point where the cost of central bank actions outweighs their benefits. To support economic growth, it is important that governments implement growth-enhancing structural reforms.

Implement structural reforms

A comprehensive policy reform agenda is needed to lift economic growth more sustainably. Concrete structural reform priorities at a national level and cooperation at the global level would ideally be coupled with targeted fiscal policy measures (for example, spending into the infrastructure area).

Most governments have not yet embarked on growth-enhancing structural reforms. The OECD observes a notable heterogeneity in responsiveness to reform recommendations across countries over the past years\(^{39}\). Unfortunately, the general trend appears to be a slower pace of reforms since 2011 (Figure 8). The low interest rate environment has reduced market pressures from governments in implementing structural reforms. However, this should no longer be a reason to postpone or abandon action.

Still, many governments are well positioned to tackle the challenges of declining productivity and output growth. Empirical evidence suggests that structural reforms tend to have a positive effect on economic growth and living standards\(^{40}\). Moreover, structural reforms can already have a positive impact in the short run, i.e. after one year.\(^{41}\)


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Figure 8:
Share of implemented OECD reform recommendations\(^{40}\)

![Graph showing share of implemented OECD reform recommendations for advanced and emerging market economies from 2011-2015.](image_url)
The economic environment matters when assessing the impact of structural reforms on the economy. In today’s current weak growth environment, it is important to prioritise reforms that stimulate the economy already in the short-term. Table 1 shows reforms that entail fiscal stimulus are the most effective, such as reducing labour tax wedges and increasing spending on active labour market policies. Even if it happens in a budget-neutral way, the effect remains positive.

Packaging, timing and sequencing reforms is thus of key importance and, if done the right way, could also limit near-term growth contractionary effects. Structural reforms should go hand in hand with targeted fiscal policy measures to offset potential short-term costs. Country specific examples of structural reform priorities are shown in Table 2.

**Table 1:**
Effect of product and labour market reforms on the economy

<table>
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<th>Area of reforms</th>
<th>Normal economic conditions</th>
<th>Weak economic conditions</th>
<th>Strong economic conditions</th>
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<tr>
<td></td>
<td>Short term</td>
<td>Medium term</td>
<td>Short term</td>
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<tr>
<td>Product market</td>
<td>+</td>
<td>++</td>
<td>+</td>
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<tr>
<td>Employment protection legislation</td>
<td>-</td>
<td>--</td>
<td>+</td>
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<tr>
<td>Unemployment benefits</td>
<td>+</td>
<td>++</td>
<td>-</td>
</tr>
<tr>
<td>Labour tax wedge</td>
<td>++</td>
<td>++</td>
<td>++</td>
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<tr>
<td>Active labour market policies</td>
<td>++</td>
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Source: IMF, WEO April 2016. Note: the macroeconomic outcomes are output and/or employment; + (-) indicates positive (negative) effect; otherwise neutral effect.

**Table 2:**
Reform priorities

<table>
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<th>Priorities</th>
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<tr>
<td>Germany:</td>
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<tr>
<td>• Strengthen competition in the services sector to enhance productivity</td>
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<tr>
<td>(e.g. digitisation of the economy could be an opportunity to redesign regulation to foster innovation)</td>
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<tr>
<td>France:</td>
</tr>
<tr>
<td>• Reduce structural unemployment (e.g. reform unemployment insurance rules to strengthen work incentives)</td>
</tr>
<tr>
<td>• Reductions in the labour tax wedge, shift the burden of taxation away from labour</td>
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<td>Italy:</td>
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<td>• Improve banking sector soundness (e.g. bank consolidation, NPL reduction)</td>
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<tr>
<td>• Reduce regulatory burden (e.g. insolvency reforms)</td>
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<tr>
<td>• Increase public sector efficiency</td>
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<tr>
<td>Spain:</td>
</tr>
<tr>
<td>• Reduce structural unemployment (e.g. lower labour market duality, strengthen the skills of long-term unemployed)</td>
</tr>
<tr>
<td>• Boost productivity and competitiveness (e.g. reduce administrative burdens and regulatory entry barriers)</td>
</tr>
</tbody>
</table>

Besides country-specific reforms, governments should also rethink the institutional setup. In Europe, for instance, the need to complete the Capital Markets Union is more pressing than ever. Given this, the Five Presidents’ Report is a much welcomed document. Unfortunately, policy action is still largely missing and has now unfortunately stalled with the Brexit vote.

Given the importance of a comprehensive policy approach to lift economic growth and support financial resilience, Swiss Re and the London School of Economics and Political Science are collaborating in a research project on this topic. The joint research project focuses on long-term investing and monetary policy and will extensively analyse the effect of low interest rates on structural reforms, investigate the effect of monetary policy on capital markets, and consider alternative monetary policy tools.

**Consistent, clear and reliable regulatory framework**

A consistent, clear and reliable regulatory framework is a precondition for sustainable economic growth. This applies to banking as well as insurance regulation. Regulators should aim at increasing transparency and undertake regular studies of the overall impact of the regulatory landscape. Looking ahead, high quality securitisation would ideally be recognised through the regulatory envelope and receive more granular and market consistent treatment.

Since the global financial crisis, financial regulation has increased significantly. While the amount of financial regulation has surged in recent years, it has also become less transparent. Even though the banking system is much better capitalised, it does not mean that more regulation is better for economic growth.

Having a consistent, clear and reliable regulatory framework is essential to foster economic growth. Figure 9 shows that regulatory risk has increased in recent years, which has also gone hand-in-hand with lower loan growth. For example, while the Basel III regulatory framework was implemented on a global level, national regulatory bodies also implemented jurisdictional elements. The Basel Committee has also debated additional changes, such as the standard vs internal model approach for capital charges, effectively further increasing the burden of the Basel III implementation. Meanwhile, some of the previously announced and far-reaching regulations, e.g. on the treatment of sovereign risk weights, have still not been addressed.

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43 See: http://www.swissre.com/rethinking/financial_stability/swiss_re_and_LSE_launch_research_partnership_on_monetary_policy_and_long_term_investment.html


Governments should implement the much-needed structural reforms to increase potential economic growth. In a low global growth environment, product market reforms would yield benefits already in the short term. Targeted fiscal stimulus into productivity enhancing infrastructure areas would be helpful.
Solvency II regime

A stable regulatory environment requires effective regulation of both the banking and insurance sectors. The Solvency II Directive, which became effective on 1 January 2016, is one example. Solvency II represents a shift from traditional, backward-looking solvency regimes to a more market- and risk-based regime. It is a “maximum harmonisation” regulation intended to prevent national regulators from adding further country-specific rules and restrictions. Indeed, national supervisory authorities going beyond the minimum supervisory requirements (“gold plating”) is a trend that can be observed for banks as well as insurers.  

Long-term investors, such as insurance companies, should remain incentivised to think and act long-term. In this regard, the matching and volatility adjustments from the Solvency II regime are helpful for long-term investors. Given the insurance sector long-dated liability structures, they have a natural interest in investing in infrastructure debt assets. Infrastructure projects usually have a very long time horizon and are fundamental drivers of future economic growth, a fact confirmed by EIOPA’s lowering of capital charges on infrastructure debt in 2016.

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46 Examples include leverage ratios, minimum capital standards, usage of internal models, etc
The need for high quality securitisation

High quality securitisation is an area that can be very beneficial for economic growth. However, financial regulation disincentives insurance companies to invest in securitised credits. Securitisation helps to free up bank balance sheets for new lending, reduces bank capital costs and as promotes, especially in Europe, diversification for funding sources. Indeed, there are large discrepancies in the global securitisation market: while the US securitisation market has recovered since the global financial crisis, total issuance in Europe fell significantly to about EUR 200bn in 2015 vs over EUR 800bn in 2008 (Figure 10). A well-functioning securitisation market enhances the monetary transmission channel, ultimately supporting economic growth. Moreover, research suggests that securitisation can both support and threaten financial stability. It is thus important to focus on components that enhance financial stability. Elements that would strengthen the functioning of securitisation markets and the development of a non-bank institutional investor base include: consistent regulatory standards, as well as harmonised and standardised definitions for the underlying characteristics of securitisations.

High quality securitisation should be encouraged by market-consistent treatment. The current regulatory framework, especially in Europe, disincentives securitisation for banks and non-banks. For example, the IMF estimated that, given the market implied regulatory capital charge for banks, “banks have an incentive to hold small and medium enterprises (SME) loans rather than invest in highly rated securitisation transactions backed by the same credit risk.”

Policymakers are recognising the need for high quality securitisation for banks and non-banks but this has not yet translated into consistent action. The European Commission has proposed legislation to establish a framework for STS (simple, transparent and standardised) securitisation and revisions to the capital requirements for banks. However, the capital requirements for insurers investing in securitised credit continue to be much higher than for banks. Significant reductions in the Solvency II capital requirements are needed for both STS and “non-STS” securitisation. There is an expectation within the insurance sector that the Solvency II requirements for securitisations will be adjusted eventually by allowing more granularity and also consistency with the regulatory framework for banks, but the timing and extent of changes is uncertain.

Regulators would ideally recognise private labels for “high quality” securitised credit. For example, the Prime Collateralised Securities (PCS) label distinguishes higher quality securitised credit. The PCS label is awarded to the senior most tranche of asset-backed transactions that fully meet the eligibility criteria as set down by the PCS Association. These criteria focus on “simplicity, asset quality and transparency and reflect some of the best practices available in the European securitisation market”. In addition, the PCS label also emphasises the importance of funding the real economy.

The role that long-term investors play as a shock absorber in financial markets and the real economy is important for regulators to keep in mind, especially ahead of the Solvency II review in 2018.

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Figure 10: Total European securitisation issuance, EUR bn

Source: Association for Financial Markets (AFME)

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47 Segoviano et al. (2015), “Securitization: The Road Ahead”, IMF Staff Discussion Note 15/01
48 Based on data as of end-December 2014. See Aiyar et al. (2016), “Revitalizing Securitization for Small and Medium-Sized Enterprises in Europe”, IMF Staff Discussion Note 15/07
50 For more information, see www.pcsmarket.org
Promote standardisation to establish new asset classes

Infrastructure investment would help lift potential output. Despite long-term investors wanting to invest more in infrastructure debt, it remains very hard to access. For a tradable infrastructure debt asset class to emerge, standardisation in reporting and disclosure requirements is key. There is a lack of standardisation, a slow project pipeline, weak investor rights and still punitive capital charges hindering infrastructure investments. The upside is that these hurdles can be overcome – one step forward would be the universal application of a template for infrastructure debt documentation and disclosure requirements, something similar to the European Financial Services Roundtable template51 (see Box 3). Ideally, “best practice” infrastructure debt model transactions from highly rated entities and/or multilateral organisations would guide markets and help to establish a tradable asset class. To support this widely shared public policy goal and track its progress, the concept of an infrastructure tradability indicator is being introduced (see Box 4).

Standardisation of certain asset classes such as infrastructure debt – from an illiquid to a tradable asset class

At this stage, investments in long-term assets such as infrastructure are complex, illiquid and heterogeneous. More accessible and tradable assets for long-term institutional investors are needed to support the intermediation of funds from borrowers to savers. The starting point for establishing a tradable asset class is promoting standardisation and transparency by having a common disclosure framework for bond prospectuses and related documentation and its project pipeline evaluation.

There is strong consensus among the private sector that more action is needed regarding the standardisation of project/loan documentation52. However, such standardised frameworks should still maintain certain flexibility, allowing for different forms of refinancing and the implementation in different jurisdictions. Given their expertise, multilateral development banks (MDBs) are well positioned to design a global best-practice standard together with the private sector. Furthermore, a common framework will help to accelerate the pipeline of bankable projects, with governments becoming more comfortable involving the private sector in financing these long-term projects.

Standardisation has already supported the tradability and expansion of more non-traditional asset classes. For instance, insurance-linked securities (ILS) have shown significant growth from less than USD 1bn in 1997 to about USD 24bn today53.

51 The template is available at http://www.efr.be/documents/news/88.02.03.2015%20EFR%20Expanded%20on%20Infrastructure%202015.pdf
53 Swiss Re estimates
In infrastructure debt, bank loans have been the major funding source, with capital market financing only representing about 10-20% of overall debt financing volumes. Despite the latest global policy efforts and general acknowledgement that a standardised and tradable asset class is needed, this did not change in 2014 or 2015, as can be seen in Figure 11.

**Figure 11:**
Capital market financing is low at a 10-20% fraction of total infrastructure debt financing

According to Preqin\(^\text{55}\), long-term investors remain below their target allocation to infrastructure. Although insurance companies have increased their allocation to infrastructure by about 1% over the last two years, the average allocation to the infrastructure asset class, including debt and equity, remains about 1% below the current average target allocation of 3.9%. Infrastructure debt investments are attractive for institutional investors given their regular cash-flow and long duration characteristics. However, the investment process is currently too complex and not transparent enough to attract the large asset base of long-term investors. To support economic growth, infrastructure debt needs to become a harmonised asset class on a global level.

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If insurers were to increase their infrastructure debt allocation by ~1%, it would result in roughly USD 300bn of additional infrastructure investment. Based on the infrastructure multiplier in a low growth environment\(^5\), USD ~1trn of additional global GDP output would be created annually.

As also outlined in the 2014 Swiss Re report “Infrastructure Investing. It Matters”, a range of actions are needed both from a market structure and policy perspective. Over the past two years, global efforts have been underway to create an infrastructure asset class and the topic has featured prominently on the G20 agenda.

Despite the prominence in the G20 agenda, concrete progress on public policy action front has been limited. The following figure illustrates Swiss Re’s key “wishes” for public policy action from 2014\(^7\) and the progress achieved so far. While there are welcome developments – such as Europe’s investment plan\(^8\) and the adjustment of the Solvency II capital charges for infrastructure debt – much more policy actions are needed to attract more institutional funds and increase the bankability of infrastructure projects. Also, more needs to be done regarding the cooperation between the public and private sector. For example, there has been limited progress towards creating a standardised infrastructure asset class or increasing its tradability. Failing to make progress on this front makes the European Investment Plan much less effective in its aim to mobilise private sector financing.

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### Figure 12: Key “wishes” for a tradable asset class to emerge

<table>
<thead>
<tr>
<th>Today’s challenges</th>
<th>“Wish list”</th>
<th>Progress so far</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market view</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No standardisation, mostly non-marketable securities (bank loans)</td>
<td>Global tradable infrastructure debt asset class</td>
<td>Recognition at national and supra-national level (i.e. G20)</td>
</tr>
<tr>
<td>Resource intensive investments</td>
<td>Standardised debt reporting and documentation, benchmarks</td>
<td>“Juncker Plan”: Private sector involvement and standardisation element is missing</td>
</tr>
<tr>
<td>No benchmark</td>
<td>Effective risk mitigation strategies, e.g. harmonised credit enhancements</td>
<td></td>
</tr>
<tr>
<td>Weak project pipeline</td>
<td>Bonds to be issued on a pool of projects, not on a deal-by-deal basis</td>
<td></td>
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<tr>
<td>Policy view</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Punitive capital charges</td>
<td>Review regulatory capital charges and tax treatment</td>
<td>Insurance regulator has adjusted Solvency II standard formula charges</td>
</tr>
<tr>
<td>Weak investors’ rights, political risks</td>
<td>Common dispute resolution practices</td>
<td>No progress on dispute resolution and information disclosure</td>
</tr>
<tr>
<td>No commonly applied best practices</td>
<td>Enhance information sharing/disclosure</td>
<td>No application of best practices</td>
</tr>
<tr>
<td>National governments and multilateral development banks to establish best practices together with the private sector</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Swiss Re

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\(^5\) See IMF World Economic Outlook (2014), Chapter 3, “Is it time for an infrastructure push? The macroeconomic effects of public investment”


\(^8\) See https://ec.europa.eu/priorities/jobs-growth-and-investment/investment-plan_en
Box 3: A template to standardise infrastructure debt documentation and disclosure

To attract more institutional investor funds into infrastructure debt and also increase the bankability of infrastructure projects, standardisation is essential. The European Financial Services Roundtable (EFR) on “Best Practices towards Standardisation and Harmonisation” (co-chaired by Swiss Re) is the most advanced template for documentation and disclosure and can continue to serve as a starting point for a shared public-private sector understanding and good market practice.

The framework, published as a strategic paper in March 2015, includes four key elements:

A. Disclosure and reporting requirements: an industry standard template has been developed

B. Debt terms and documentation: a common governing standard would represent a good step towards harmonising contract terms across jurisdictions

C. Administration and arbitration: information on administrative responsibilities, e.g. cash flow and collateral management, and a commonly agreed dispute resolution mechanism

D. Third party advisors: clear guidelines for the interaction and disclosure related to third party advisors such as technical advisors, consultants and auditors

This framework serves as a template and could be translated into commonly agreed public/private best practices, applicable to the broader infrastructure debt markets.

Need for a “best practice” model infrastructure debt transaction

To put the proposed EFR template into practice, a model infrastructure debt transaction would be very helpful. These could serve as guide for policymakers and private sector participants in future transaction activity.

The European Investment Plan offers a great opportunity to start applying the needed elements and build a more tradable infrastructure debt asset class. So far, the European Fund for Strategic Investments has executed a total of EUR 138bn worth of investments into infrastructure, smaller companies and R&D across 366 transactions. This is roughly a third of the total envisaged funding of EUR 315bn and hence represents good progress. However, it is largely unknown at this stage whether a sufficient number of long-term investors have been “crowded-in” as previously envisaged and whether a more standardised approach to the financing instruments is being applied.

Therefore, it would be highly beneficial to apply the proposed standardisation template going forward. This would expedite the move towards a public/private agreed and implemented framework that can be used on a broader scale to help develop an asset class more appealing to long-term investors.

58 Available at http://www.efr.be/documents/news/86.02.03.2015%20EFR%20Expanded%20on%20Infrastructure%202015.pdf

60 Several elements as outlined in the “wish list” in section 2.4 could be incorporated, such as standardised reporting, credit enhancements, the pooling of projects and potentially the involvement of additional insurance coverage

61 Source: http://www.eib.org/efsi/index.htm, as of 12 October 2016
Box 4: Tradability of infrastructure debt

From a regulatory and investor viewpoint, infrastructure debt’s progress in becoming a tradable asset class should be monitored. However, there is currently no quantitative tool that allow for systematic monitoring of infrastructure debt “tradability”. Accordingly, Swiss Re is in the process of developing a framework allowing monitoring of progress over time. This is designed to help potential investors and policymakers assess the progress achieved and bring infrastructure debt another step closer to becoming a standardised and tradable asset class.

Besides showing the market issuance activity of tradable infrastructure-related bonds vs the illiquid infrastructure loans, the “tradability indicator” also reflects the liquidity conditions within the credit asset class. The aggregate score across a broad set of infrastructure bonds and different asset classes are illustrated in Figure 13.

As seen in the graph, liquidity conditions of infrastructure debt modestly improved during the 2012–2014 period but have worsened again more recently. Overall, liquidity remains worse than in the corporate bond market where the aggregate liquidity cost score is in the 0.5–0.8 range instead. Hence, more efforts are required for infrastructure debt to become a tradable asset class, as alluded to in Figure 13.

Figure 13: Infrastructure debt tradability

![Graph showing infrastructure debt tradability](image)

As seen in the graph, liquidity conditions of infrastructure debt modestly improved during the 2012–2014 period but have worsened again more recently. Overall, liquidity remains worse than in the corporate bond market where the aggregate liquidity cost score is in the 0.5–0.8 range instead. Hence, more efforts are required for infrastructure debt to become a tradable asset class, as alluded to in Figure 13.

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62 For this purpose, the Bloomberg/Barclays Liquidity Cost Score serves as an input. The score is defined as the cost – as a percent of the bond’s price – to execute a “round-trip” transaction.
Standardisation is essential to attract more institutional investor funds into infrastructure debt and increase the bankability of infrastructure projects.
Box 5: Strengthening investor rights with better dispute resolution

A stable and reliable legal and regulatory investment environment, which includes investor rights protection, is a crucial consideration for institutional investors who lend long-term funds to the real economy. With respect to sovereign debt investments, collective action clauses (CACs) can improve investor protection in the event of sovereign debt restructurings. Investor rights are also prominently challenged in the context of bank failure and resolution, with the latest legislation of senior bank debt “bail-in” now providing a more transparent framework for Europe, despite still being rather controversial and not consistently applied. More concerted efforts to protect investor rights in case of disputes or nationalisation of assets such as infrastructure are needed.

One of the most often cited risks related to long-term investing in general, and infrastructure investments in particular, is political and regulatory risk. Any changes to the laws, rules and regulations, tariffs or any other element that fundamentally modifies the cash-flow profile of an infrastructure asset would represent a significant investment risk. Such unexpected changes would pose an even bigger problem if the respective jurisdictions do not have a process in place that defines an appropriate investor compensation scheme. For infrastructure assets in particular, the investment period can extend over several political cycles, hence making the exposure to political uncertainty even higher.

Arbitration cases are very common for infrastructure-related disputes. The risk of such a dispute arising is not only confined to investments in developing economies (see Figures 14 and 15).
Strengthening investor rights to protect from political risks

In parallel to the efforts of standardising the asset class, investor rights need to be strengthened, especially with regards to the dispute resolution mechanism (see Box 5). This is particularly important for investments of a long-term nature, such as infrastructure investments, which are prone to policy changes across political cycles. Possible ways forward could be a standardised dispute resolution mechanism, international arbitration, and the establishment of bilateral investment treaties (BITs).

The previously mentioned EFR report on infrastructure investment also features a section on harmonising dispute resolution. The key recommendations remain valid and are as follows:

- A move towards a standardised dispute resolution practice across EU member states (e.g. having a dedicated European court for appeal)
- International arbitration – not only for disputes taking place at concession level, but also between lenders and other contractors, including the government
- The inclusion of a standardised dispute resolution clause in the infrastructure debt terms in order to provide sufficient transparency to debt holders
- The broad establishment of BITs to protect investors against government interference. In Europe, BITs have to be aligned with EU law, thus making them compatible with the EU single market idea

To crowd-in institutional investors in the infrastructure debt space, investor rights should be strengthened. A step towards that goal would be to consistently apply the EFR template.

The need for more public-private partnerships

The current interest rate environment is a great opportunity for the public and the private sector to combine resources to finance and enhance productive economic growth capacities through well-targeted investments. With regard to infrastructure, public-private partnerships (PPPs) are an essential ingredient for long-term investments and can combine the best of both worlds (see Box 6). As the IMF63 outlined, a PPP that invests USD 1 in infrastructure would return USD 3 in GDP output in a low-growth environment. However, effective PPPs for long-term investments are scarce around the globe. In this section, two simple structures are introduced that could be highly beneficial not only for long-term investors, but more broadly also for economies. In one structure, PPP roles are clearly defined, with financing enabled through recycling existing assets. In the other proposal, a quasi-structurer to make project loans more accessible to capital markets is embedded within the PPP vehicle. For both models, a standard template that sets out the rights and responsibilities of involved parties in the PPP would be highly welcomed. Furthermore and within the multi-lateral development banks’ project financing context, a standard PPP contract could be made a pre-condition, rather than a “best practice”.

63 Source: IMF World Economic Outlook (2014), Chapter 3
Box 6: Potential structures to encourage long-term investment

Structure 1: clearly defined PPP roles, potentially financed by recycling existing assets

Public-private partnerships (PPPs) integrate project design, building, financing and maintenance into one framework and allocate risks to the party most able to deal with them. Generally, the public sector takes on the construction risk of a project, with the private sector carrying the investment risk once the project is up and running. PPPs for long-term investments are typically set up for “greenfield” and “brownfield” projects. For the latter, the public part of the PPP structure could be financed by recycling existing government assets through privatisation. The risk of intervention, or change of government, during the construction phase is one of the big risks for the private sector. As the assets already exist, this risk is mitigated. Australia’s Asset Recycling Initiative is an example for such a PPP structure. The initiative incentivises states and territories to sell part of their existing infrastructure assets to private investors and redirect the funds into new infrastructure projects that benefit the economy. As a result, the public sector would have funds available for new investments which would accelerate private sector investment. To unlock the states’ balance sheets in Australia, the states receive up to 15% premium from the Federal Government on their asset sales; in turn, this is then used for new infrastructure projects.

Asset recycling allows governments to expand their infrastructure by unlocking their balance sheets through privatisation. The private sector, on the other hand, can then invest in the already up-and-running, high quality infrastructure across the country. Clearly, this is a “win-win” situation: the government invests in infrastructure and thus raises potential GDP growth through a relatively balance-sheet-neutral approach by selling legacy infrastructure. Private investors are then able to buy long-dated infrastructure assets while also taking responsibility for its management. Throughout the lifetime of such a project, the roles of the public and the private sector are clearly defined and rigorous due diligence is encouraged. The low or even negative interest rate environment is not an argument against PPPs’ involvement in the infrastructure space. Quite the opposite: the current interest rate environment is an excellent opportunity for the public and the private sector to combine resources to enhance and finance productive capacities through well-targeted investments. Indeed, the current environment presents an ideal opportunity to set up universal PPP principles governing the respective PPP roles and responsibilities. More PPP standardisation would allow the domestic PPP markets to flourish. Canada’s successful and often used PPP structure is a case in point.

Structure 2: PPP special purpose vehicle to act as quasi-structure

In this proposed structure, the PPP acts as a quasi-structure to make project loans more accessible to capital markets. Usually, banks are only prepared to take on construction risk during the initial phase of a project, which is more challenging for long-dated projects (such as infrastructure). On the other hand, long-term investors typically prefer to have no, or minimal, exposure to construction risk and are interested in assets with long dated maturities and with stable cash flows.

The PPP vehicle assumes here a role as an SPV (Special Purpose Vehicle) enabling banks to sell the loans once the construction of a project is completed and pass them on thereafter to the capital markets. The SPV would only take up loans that fulfil certain criteria (such as: limited to specific countries, core currency denominated, predefined industries, tenors beyond 10 years). These loans are then sold individually or pooled to provide investors with a more diversified exposure at market value. To broaden the investor universe and increase the demand side, the SPV would also offer credit enhancements by involving multilateral agencies to cater to different yield requirements, durations, sizes, etc.

64 A brownfield project commonly refers to a project that is based on prior work or one that is being modified from an existing project
65 In 2014, Australia presented the Infrastructure Growth Package (IGP) which includes the Asset Recycling Initiative (ARI). In order to get an up to 15% premium, the new projects need to comply with certain eligibility criteria. For more information, see http://www.budget.gov.au/2014-15/content/glossy/infrastructure/html/infrastructure_04.htm
67 For the blueprint, see Swiss Re (2014) publication “Infrastructure Investing. It matters.”
As shown in the initial Swiss Re infrastructure asset class blueprint proposal in 2014, involvement of a multilateral institution or national development agency is particularly beneficial. Additionally, the structure covers only projects fulfilling best practice requirements on the reporting and disclosure front. This helps to develop a tradable asset class, which not only strengthens the investor rights but also significantly increases the asset class’ attractiveness to institutional investors. Indeed, the G20/OECD have released recommendations for financing structures for infrastructure investments and encourages public-private partnerships. The report also suggests that a general template for structuring PPP contracts should reduce the cost and complexity of a PPP transaction and facilitate broader investor involvement. We would welcome a standard template that sets out the rights and responsibilities of involved parties in the PPP. If a multilateral development bank lends money for a project, a standard PPP contract could be a precondition, rather than a “best practice”. This would enable a robust, transparent and fair common denominator, whilst clearly defining the roles of the parties.

For either PPP structure, a government might use the IMF/World Bank to institutionalise the multilateral agency credit enhancement support. Alternatively, the existing Global Infrastructure Facility (GIF) established by the World Bank could be enlarged to take on not only facilitating infrastructure investment risk in developing markets but also in advanced economies.

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69 Swiss Re is a strategic advisor. For more information, see http://www.worldbank.org/en/programs/global-Infrastructure-facility.
Equity-like financing: risk-sharing sovereign bonds

In a world with a record-high level of debt, GDP-linked sovereign bonds would offer optionality for pay-outs and act as a countercyclical stabiliser. Governments would benefit from more fiscal flexibility, making the implementation of longer-term and growth-friendly policies easier. The pay-out of the GDP-linked sovereign bonds would be driven by the actual GDP outcome with the coupon floored at zero similar to US Treasury Inflation-Protected Securities (TIPS). Positive public policy actions would feed through GDP-linked sovereign bonds and could therefore incentivise good government behaviour.

Given the high public and private sector indebtedness in many countries globally, innovative private market financing solutions should be encouraged. Supporting “equity-like” financing, such as risk-sharing sovereign bonds, would be beneficial, offering optionality for pay-outs (e.g. dividends) and acting as a counter-cyclical stabiliser. For example, governments could issue GDP-linked sovereign bonds. However, the present economic systems exhibit strong biases towards traditional debt financing, mainly due to the following reasons:

- Deposit insurances of banks with taxpayers subsidising bank intermediation
- Internationally, legislation protects debt holders more than equity holders
- Equity markets in developing countries are often severely underdeveloped
- G7 funds aimed at helping distressed country debtors often end up being recycled to G7 debt holders through higher payments, a further subsidy of debt finance

More equity-like financing, such as GDP-linked sovereign bonds, could be incentivised by ensuring a more equal or favourable treatment in comparison to debt, e.g. by reducing the tax advantage of debt over equity. Governments would also be able to focus on the factors that will promote longer-term growth: labour, education and tax laws. For EM countries in particular, the governments would have a stronger incentive to develop a more effective and efficient capital market, as well as strengthening their institutional setup.

GDP-linked sovereign bonds

GDP-linked sovereign bonds would tie the interest on government debt to an economic variable, e.g. actual GDP growth. A country would pay a higher interest when growth is higher, and correspondingly a lower interest when growth slows. This approach would leave governments with lower payments to creditors during rough economic periods and higher bills in good times. It would help prevent the government resorting to “pro-cyclical” fiscal policy, whereby it exacerbates busts (by cutting expenditure) and booms (by overspending). As many economies are currently trapped by excessive debt levels, GDP-linked sovereign bonds could be used for infrastructure investments, which increases the productive capacity of the economy. In turn, this would improve the GDP growth trajectory, contributing to improved debt sustainability.

The Bank of England (BoE) has argued that such automatic moderation would be especially valuable not only to poorer countries, but also to members of currency unions. A debt to GDP ratio of more than 90% can lead to a loss of confidence in a government’s ability to repay, and thus higher borrowing costs add to a downward debt spiral. GDP-linked bonds, on the other hand, provide governments with much more fiscal space which could increase the sustainable debt ratios to 150–200% of GDP.

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71 Coupon payments would depend on the GDP at the date of payment relative to the GDP at the date of the bond issuance. If GDP is lower than the reference level, the coupon is reduced
In terms of design, GDP-linked sovereign bonds could have a minimum coupon floor at zero, similar to US Treasury Inflation-Protected Securities (TIPS), in order to be attractive for investors. Encouragingly, other areas of investor concern, such as robustness of GDP reporting and potential pricing of the bonds, are being actively discussed.

By establishing a mature, liquid and developed market for equity-like financing, a country will be able to allocate risk capital more easily to productive areas of the economy and promote risk sharing. This will eventually lead to a more sustainable environment for economic growth. Looking ahead, model transactions by higher-rated advanced economies would be extremely useful should the current private and public sector dialogue conclude that the instruments are attractive for both governments and investors.

Blockchain

Embracing proven Blockchain technology in financial market transactions would have several advantages. Firstly, it could boost operational efficiency and support financial innovation. Secondly, it would increase transparency, including on legal claims and, as such, strengthen investor rights. Thirdly, and in the context of Europe’s 2020 strategy for the digital single market, it would be a unique opportunity to support the Capital Markets Union by laying out a pan-European approach on digital regulation.

A stable and resilient financial market infrastructure could facilitate recycling long-term assets into the real economy. Blockchain technology, when applied on a broader scale, could thus support economic growth. As an example, the BoE estimates that issuing digital currency worth 30% of GDP, implemented via a distributed ledger system, could increase steady-state GDP output by up to 3%74. Although the estimates are model-implied and quite optimistic, a move towards a modern, Blockchain-like financial market infrastructure system would not only save costs, but could also bring about significant productivity gains.

For asset managers and long-term investors in particular, Blockchain technology offers many advantages75 (see Box 7). These include (much) faster payments and settlement times, lower settlement and counterparty risks, cheaper transactions without compromising security, as well as strengthened transparency and investor rights. The existing hurdles should not hold industry participants back from taking a more proactive role in moving towards a more “Blockchain-like” financial system. Working on concrete proofs of concept, participating in prototypes and embracing “learning by doing” would ultimately benefit long-term investors and the resilience of the financial market landscape alike.

73 For the purposes of this report, “Blockchain” refers to the general concept of a distributed ledger technology and not to one specific version. Hence, the Blockchain in this section refers to “Blockchain-like” technology

74 Currency is assumed to be issued against government bonds. The model is a DSGE model to simulate the pre-crisis United States. See Bardear, J. and M. Kumhof (2016). “The macroeconomics of central bank issued digital currencies”, BoE Staff Working Paper No. 605

75 See Oliver Wyman (2016), “Blockchain in Capital Markets: the Prize and the Journey”
Box 7: The potential of Blockchain for long-term investors

The following figure illustrates how Blockchain technology works. In simplified terms, Blockchain is a decentralised ledger technology to certify ownership, verify transactions, streamline processes and facilitate verification, or share approval. As it is decentralised, every user holds a copy of the data and has access to the same underlying database, cutting out the “middle man”.

Hence, there is huge potential for nearly full automation and subsequently higher processing speeds, affecting the entire value chain. Combined with the more automated and less manual processes, it allows the creation of products which are currently not viable due to cost constraints. We expect more private capital market solutions as the full potential of the Blockchain technology unfolds, thus creating a powerful, positive feedback loop for financial innovation. For example, risk mitigation instruments such as insurance products or credit enhancements can be developed more easily. As a result of the increased resilience to adverse shocks, more economic risk taking could unfold to support economic growth.

Figure 17
How Blockchain works: shift from centralised ledger ...

... to a distributed ledger


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76 See Swiss Re SONAR 2016 report. Note that this doesn’t mean that everyone has access to assets or rights. Financial markets would likely use a sort of “permission Blockchain” to ensure assets and transactions are safely encrypted.

77 Which is a trusted third party such as a government, bank, etc.

78 An example is microinsurance, which could emerge much more universally.
As alluded to in previous sections, infrastructure investments are a key element for economic growth. One key reason why institutional investors have not invested more in infrastructure is due to a lack of sufficiently strong investor rights. Blockchain technology provides an immutable and undisputable proof of ownership of an asset, which would increase transparency and support arbitration. In this context, Blockchain technology could facilitate access for long-term investors to more illiquid asset classes such as infrastructure debt.

If Blockchain technology becomes more widely used, the Eurozone would have a unique opportunity to implement a pan-European, harmonised approach within Europe’s 2020 strategy for a digital single market. The digital regulation approach would be suitable for all member countries, irrespective of the existing differences in national legislations related to traditional banking activities. Indeed, national differences in the regulatory approach for traditional banking is holding back progress towards a European Capital Markets Union. Developing a fresh pan-European approach to the digital regulation of Blockchain, and Fintech more generally, would be a significant step towards harmonising Europe’s currently fragmented financial market landscape.

A major hurdle for Blockchain technology is that the adoption roadmap remains unclear. So far, the lack of a common approach significantly inhibits companies in their technology investments. Although over 50 international banks have formed a consortium (R3 CEV) for Blockchain-related research and development in financial systems, it is not clear what a global standard should look like and how a potential solution should be phased in79. As suggested by Fed Board member Lael Brainard80, the biggest financial stability risk is likely the transition to a new system. It is vital that the new system can inter-operate with the legacy system, thus ensuring smooth functioning throughout.

Issuer credibility can also be a problem for Blockchain and its associated cryptocurrencies, e.g. the “bitcoin”. Monetary authorities can play a crucial role in pushing forward the application and acceptance of Blockchain technology. For example, it is currently not possible to trade “official” reserve currencies such as USD, EUR or SDR on Blockchain. If a large central bank would step up and allow its currencies to be used on the Blockchain system, it would be a strong push for private sector participants to conduct payments and other services via Blockchain81. In fact, most G10 central banks are studying the effect of the distributed ledger technology. The UK in particular is at the forefront, as the BoE announced the creation of a Fintech Accelerator program82, while the FCA has set up a “regulatory sandbox” to allow businesses to test innovative products in a live environment without all the usual regulatory restrictions.

79 Encouragingly, several large banks have come together to propose a credible, new digital currency. See FT article of 23 August 2016, https://www.ft.com/content/1a862c16-6952-11e6-ae5b-a7cc5dd5a28c
81 To adopt a major currency in the Blockchain technology, central banks could tokenise an existing currency, with a fixed token/official currency exchange rate of 1:1. The BoE has published a very interesting paper on central bank digital currencies and the estimated macroeconomic impacts, see footnote 76