

Improving International Access to Credit Markets

RESEARCH REPORT
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PO Box 270, Guildhall
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Foreword

Credit markets are an integral part of the modern global economy. Representing the largest component of global capital markets, they dwarf the value of stock markets. They allow governments and firms to match demand for finance, raising capital to invest in the economy, thereby creating jobs, improving infrastructure and supporting research and innovation. Where these markets are effective, they fuel economic growth.

Credit markets have played an increasingly important role in helping to sustain global growth since the 2008 financial crisis, driven in part by tighter bank lending, quantitative easing and an increasing emerging market appetite for credit. As a result, credit markets have experienced rapid growth, particularly in emerging markets, which has undoubtedly helped to sustain on-going investment in key economies around the world. This is a trend that is likely to continue for the foreseeable future.

As governments strive to rejuvenate their economies and foster growth, it is not surprising that efforts are being made across the globe to develop more efficient and deeper credit markets. In Europe, for example, work to develop a Capital Markets Union – a single market for capital through integration of the credit and equity markets of the European Union’s 28 Member States – is well on its way and provides significant potential for driving growth. Europe and the US are also seeing exciting developments in financial products, including green bonds, peer to peer lending and other innovations from the burgeoning Financial Technology sector. These promise to increase the breadth and depth of credit products available to investors.

Such ambitions extend far beyond Europe and the US however, and we are seeing a number of credit market developments in other locations across the globe. A number of Asian markets, for example, are becoming increasingly more structured and advanced in opening up their economies and developing new finance solutions to meet domestic capacity building needs in key sectors such as infrastructure.

India alone is reported to require an estimated US\$237 billion in further investment over the next four to five years to meet its infrastructure needs, with the Modi Government acknowledging that the vast majority of this will need to come from the private sector. Credit markets offer a potential solution to raising some of these funds in India. To realise this, however, investors will need to gain confidence that the markets they are investing in provides choice and opportunity, are well-functioning and adequately regulated.

This report presents the findings from the Credit Market Assessment Framework (CMAF), a new data analysis tool designed specifically for this research. The framework combines seven components of effective and well-functioning credit markets to establish the developmental stages of credit markets in fifty-nine countries. The report focuses on eleven countries to develop broader policy implications for other countries in similar developmental stages, which can be adapted to suit specific regions and market environments.

This report provides unique analysis on the growth prospects of international credit markets and makes policy recommendations to widen their international access and facilitate their further development. This informs the wider debate on how financial services continue to evolve globally. Through the efficient and effective allocation of capital, credit markets are a crucial component in meeting customer needs and maintaining financial stability.



Mark Boleat

Chairman of the Policy and Resources Committee
City of London
June 2016

Executive Summary

Rationale

Credit markets enable the free exchange of a broad range of both debt and short-term loan instruments; they are used by governments and companies to raise finance from investors. They include a wide array of securities including investment-grade government and corporate bonds, junk-grade government and corporate bonds, commercial paper, securitised obligations such as collateralised debt obligations, as well as swaps and convertible bonds. There are also mutual funds and exchange traded funds that invest solely in credit products thereby allowing investors exposure to debt securities in their investment portfolios without directly purchasing them.

Credit markets help to match the demand for finance in the economy by supplying a wide range of credit products to meet the different financing needs of both governments and firms. Where these markets are effective, they fuel economic growth. By allocating finance efficiently, credit markets allow governments and companies to invest in the real economy thereby creating jobs, improving infrastructure, and supporting innovation and technological development. There is a clear relationship at the firm-level between a company's stage of growth and its evolving demand for different amounts and types of credit to finance new investments and working capital. Further, international credit markets assume their most critical role for companies that have undergone a period of high growth and have become established participants in their respective markets. Credit markets are, therefore, an integral part of the modern global economy.

Credit markets have been crucial in generating global growth since the 2008 crisis, driven in part by quantitative easing and an increasing emerging market appetite for credit. This study aims to deepen the general understanding of the role of credit markets in the global economy, and to generate a staged model of credit market development, which could identify policy lessons both across and within different stages of development. By using a robust empirical data-driven framework, which establishes the developmental stages of credit markets, we highlight specific regions where better access to international credit markets is necessary to support economic growth.

Report

This report presents the key findings of our comparative assessment of individual credit markets. The Credit Market Assessment Framework (CMAF) is a data analysis tool designed specifically for this project.

We cover eleven countries in our in-depth market specific analyses. These were selected on the basis they are representative of the range of markets across the developmental spectrum, and because they cover an extensive cross-section in terms of regions, economic development, and political history. They are as follows: China; Germany; India; Japan; Nigeria; Mexico; Singapore; Norway; the UK; the USA; and Vietnam. Through undertaking this analysis, broader policy implications were developed, which directly pertain to other countries in similar developmental stages.

Methodology

The CMAF combines seven components which are key for effective and well-functioning credit markets to exist. These components are: legal framework, market infrastructure, regulation, levels of knowledge, investor base, primary markets and secondary markets. The CMAF traces the evolution of these components along a four-stage model of credit market development. The four stages of development identified are: emerging, developing, established, and mature. Using a descriptor table to make our components conceptually and empirically congruent with our developmental model, we constructed a comprehensive series of statistical indicators, which were used to assess the development of credit markets. Our final sample of fifty-nine countries across the world accounts for 91% of corporate bond issuance globally and 87% of global GDP.

CMAF: Key Findings

We used the CMAF to benchmark the development of the full sample of fifty-nine countries across all the seven components outlined above. Table 1 below shows the results for our eleven key countries.

TABLE 1 OVERLEAF

CMAF Key Findings

We also analysed the data by region and by maturity profile. The regional analysis enabled us to highlight precisely which credit markets within each of the world's regions are currently at the emerging, developing, established, or mature stages of development. Through case studies of instrument markets within these eleven countries, we identified important "lessons learned" from credit markets which are of increasing investor interest or which are areas that would benefit from increased access to international credit markets.

Policy and Credit Market Development

The scope-for-growth in these credit markets was compared to the capacity the markets had to realise growth. From this comparison we were able to generate vital insights into the overall credit market development process

and the policy priorities pertaining to markets at different stages of development.

FIGURE 1

Policy Evolution and Credit Market Development

Credit markets with the greatest potential for growth – emerging markets – require greater access to international markets and are in need of systemic macro-level programmes of reform targeted at their legal systems to foster trust and consistency around property rights and sanctioned behaviour in the marketplace.

Credit markets which are *building potential* – developing markets – need to continue building strength and solidity in the legal framework which supports the market, but the policy mix must be more balanced, with a growing focus on building

TABLE 1

CMAF Key Findings

- ✓ Typical of emerging credit market
- ✓✓ Typical of developing credit market
- ✓✓✓ Typical of established credit market
- ✓✓✓✓ Typical of mature credit market

Credit Market	Legal Framework	Market Infrastructure	Market Regulation	Levels of Knowledge	Investor Base	Primary Markets	Secondary Markets	Overall
China	✓✓	✓✓✓	✓	✓	✓✓✓	✓	✓✓✓	✓✓
Germany	✓✓✓✓	✓✓✓✓	✓✓	✓✓✓✓	✓✓✓✓	✓✓✓	✓✓✓	✓✓✓✓
India	✓✓	✓	✓	✓	✓✓	✓	✓✓	✓
Japan	✓✓✓	✓✓✓✓	✓✓	✓✓✓	✓✓✓✓	✓✓	✓✓✓	✓✓✓
Mexico	✓	✓✓✓	✓✓✓	✓✓	✓✓	✓✓	✓✓	✓✓
Nigeria	✓	✓	✓✓	✓	✓	✓	✓	✓
Norway	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓
Singapore	✓✓✓✓	✓✓	✓✓✓✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓✓	✓✓✓✓
UK	✓✓✓✓	✓✓	✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓	✓✓✓✓
USA	✓✓✓✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓	✓✓✓✓
Vietnam	✓✓	✓✓	✓	✓	✓✓	✓	✓	✓

competency in terms of skills, investor base diversity and sectoral diversity.

Credit markets that are *realising potential* – established markets – need to focus on pragmatic and effective internationally orientated policies. Having built their infrastructural and legal-regulatory systems sufficiently, and with credit markets supported by well-developed knowledge levels and an increasingly diverse investor base, policymakers working to develop these markets need to turn their strategic focus onto building beneficial linkages abroad. To spur the onset of an agglomeration effect, the main priority here is the positioning of the credit market within the global financial system. This is a perplexing stage for policymakers and a stage in development that has extensive risks and influencing factors, many of which are firmly outside the control of national policy makers and domestic market participants.

Credit markets that are *innovating to grow* – mature markets – have little scope for significant increases in aggregate growth but the conditions of development are fully satisfied. This group need to prioritise policies that foster innovation in credit products, legal processes, and risk management practices, as well as using policy measures to facilitate accelerated growth in nascent sub-sectors.

Additional findings include:

- o **Innovation is key** for on-going development of the most mature credit markets. Mature credit markets have reached a peak in terms of

scaling up but can take the lead in innovating to grow. The growing but nevertheless constrained green bond market, and the emerging peer-to-peer business lending market, are prime examples of product and process innovations.

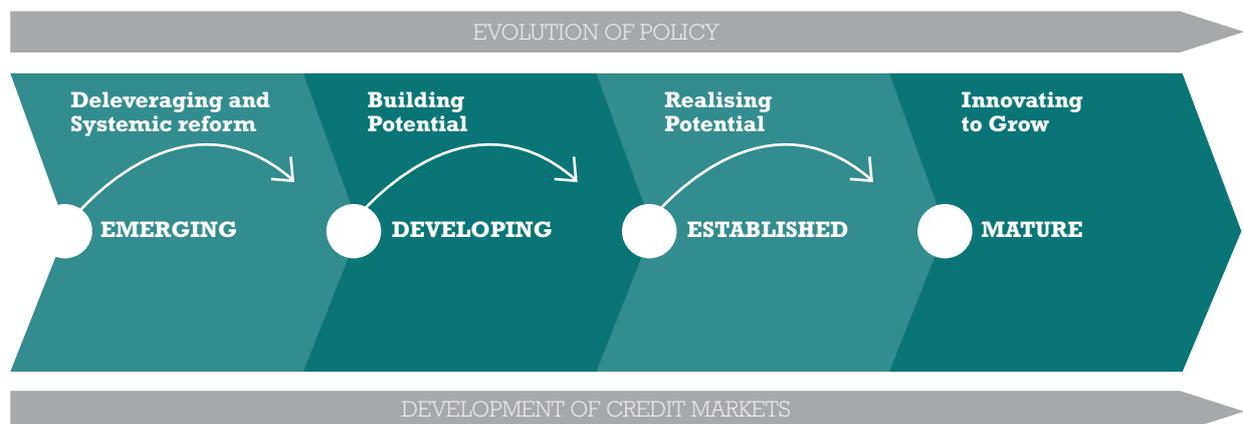
- o **The European Capital Markets Union (CMU) is a potential game-changer.** The integration of Europe's credit and equity markets which emerges from the Commission's plan could change the landscape of credit in Europe. CMU provides significant potential for driving growth, but implementation and practical delivery will be fraught by barriers around fragmentation and differing legal and regulatory regimes.

- o **Concerns are growing about the liquidity of global credit markets** and in particular corporate bond markets since mid-2015. Regulatory demands for banks to hold increased capital buffers and to refrain from extensive market making activities and/or proprietary trading have been cited as possible reasons for this.

- o **Credit is cyclical** and as a consequence the performance of any specific credit market will depend not only on the strength of its key components but also on the stage within the credit cycle at any given time.

These policy outputs from the analysis were tested through our expert interviews conducted with a range of senior regulators, high-level policymakers, and executive-level market participants. In cross-referencing our findings with this group, we were able to confirm our framework against the insights of practitioners active in specific credit markets around the world.

FIGURE 1
Policy Evolution and Credit Market Development



Introduction

1

FIGURE 2

Debt Securities Outstanding, Equity Markets Capitalization and Outstanding Derivatives (Market Value) in the Global Financial System

Credit markets represent the largest component of global capital markets, dwarfing the value of stock markets. Since the financial crisis, credit markets have played an increasingly important role in helping to sustain global growth and provided significant amounts of finance and investment in the real economy. The rapid growth of credit markets since 2009, particularly in emerging markets, has undoubtedly helped to sustain on-going investment in key economies around the world, especially in China. This has been driven by international investors in search of higher yields than those offered by the contracting economies of the developed world in the aftermath of the 2008 financial crisis. Recent concerns about whether the considerable growth of these credit markets has occurred without a concomitant growth in the capabilities of these markets to effectively manage the increased risks and

complexities associated with the expansion of credit, and in particular corporate credit, makes this report particularly timely.

1.1 Aims

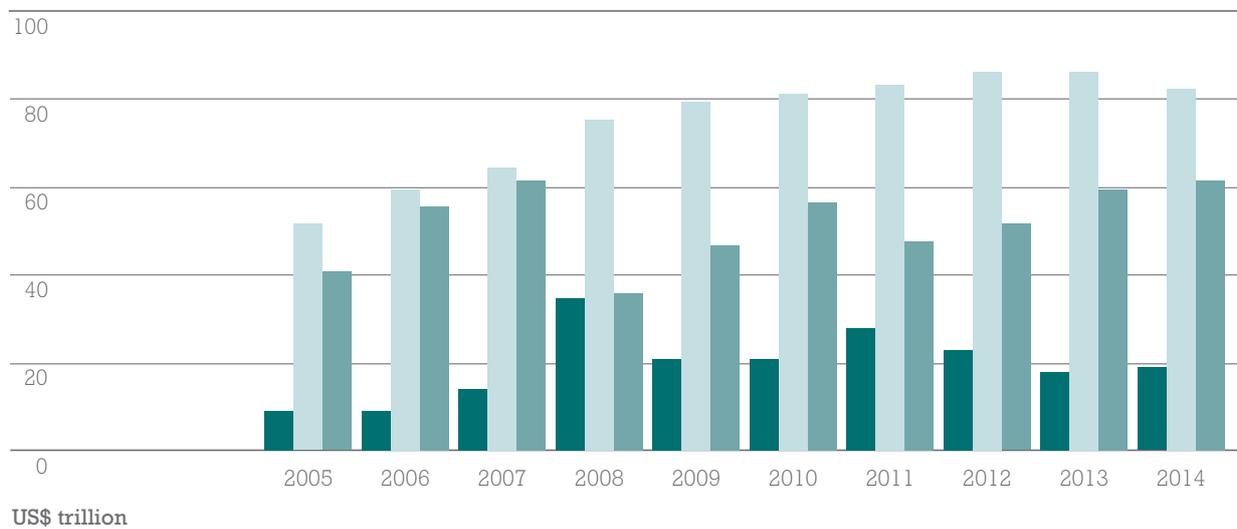
This research aims to develop policy recommendations that will facilitate a widening of access to international credit markets in economies and regions with growth potential. For these proposals to be meaningful and relevant, the study required the application of a robust developmental model designed to enable the identification of the key steps that need to be taken by countries positioned at particular stages of development. This report is designed to equip policymakers with the knowledge and ideas required to ensure ongoing development and reform within the domestic economy, which will increase and widen international access to credit markets. In doing so, this research, therefore, also necessitated the identification of the key challenges, opportunities, barriers, and enablers that drive or inhibit further development and access to credit markets around the world.

FIGURE 2

Debt Securities Outstanding, Equity Markets Capitalization and Outstanding Derivatives (Market Value) in the Global Financial System

Source: BIS Statistics, <http://www.bis.org/statistics/secstats.htm>

■ Derivatives (Market Value)
 ■ Debt Securities Outstanding
 ■ Equity Markets Capitalisation



1.2 Methodology

The work programme for this research involved detailed desk-based research that explored and analysed the levels of development of eleven credit markets in eleven territories, as well as investigating the key international trends in the world's major non-bank credit instruments. This part of the project involved a systematic review of both academic and policy literature pertaining to credit markets at the global level, as well as an in-depth analysis of a broad range of policy, grey, official (governmental) and academic material pertaining to the eleven credit markets outlined in Chapter 4.

The choice of the eleven credit markets that the project took as its main focus aimed to provide a good mix of coverage across different regions, regulatory environments, and stages of credit market and financial system development. The project also drew on a large range of statistical data from international organizations, including: the World Bank, the International Monetary Fund, Bankscope, the European Central Bank, the Asian Development Bank and the Bank for International Settlements. This part of the project compiled an extensive series of development indicators to build our Credit Market Assessment Framework, through which we have been able to plot the developmental stages of fifty-nine countries according to the seven components we identified as necessary for effective and well-functioning credit markets as set out in Chapter 3. The statistical analysis we undertook has enabled a meaningful comparison between credit markets in different locations and at different stages of development.

The project has also used data from semi-structured interviews to test the policy recommendations that are generated by the model and to finesse them in light of insights presented by senior policymakers, regulators, and market participants across the globe. Twenty interviews have been conducted by telephone and face-to-face with regulators, high-level market actors and key government decision-makers in India, Singapore, the USA, the UK, Germany, Nigeria, Mexico, Japan and Norway.

1.3 Structure

The remainder of the report is structured as follows:

Chapter 2 defines credit markets for the purpose of this study, and distinguishes between the main instrument types which make up the market, with a specific focus on their role in the financial system, their purpose in the economy, the current scope and scale of each of these markets, and the emerging trends and patterns in global credit markets.

Chapter 3 outlines our Credit Market Assessment Framework (CMAF), which has been designed for the comparative assessment of individual credit markets. It first identifies seven key components of effective and well-functioning credit markets and delineates a number of developmental stages in the evolution of credit markets.

Chapter 4 provides a detailed, empirically informed narrative overview of each of the eleven countries that feature in our in-depth analysis. For each country, an empirically informed overview of the financial system within which the individual credit market operates is provided, followed by an overview of the country's credit market, an analytical breakdown of the CMAF scores for the country, and a narrative case of an instrument-specific market within the country which constitutes a key area of opportunity for development and improved access.

Chapter 5 draws on the key insights from interviews with practitioners and policymakers and further analysis of data from the CMAF to identify a series of policy concerns of relevance to credit markets at different stages of development. These insights are illustrated with reference to specific examples and cases including the eleven key countries that are detailed in Chapter 4.

Defining and Describing International Credit Markets

2

|

Credit markets enable the issuance of debt securities and short-term loan instruments by companies and governments to raise finance from investors. They incorporate investment-grade and junk bonds, short-term commercial paper, as well as securitised obligations such as pools of mortgages and collateralised debt obligations and swaps. In addition to the direct trading of securities, there are also broad classes of mutual funds and exchange traded funds that invest only in credit market instruments, allowing investors exposure to debt securities without directly purchasing them.

2.1

The Purpose of Credit Markets

The general purpose of credit markets is to match the economy's demand for finance with the supply of finance in an efficient way. These markets fuel economic growth by allocating finance to the real economy via governments and firms, which is used to create jobs, build infrastructure, and finance innovation and technological development. The money raised through credit markets is a key part of the funding mix for both public and private firms as well as local and national government. Start-ups and micros access credit markets to grow their businesses and bring new products and services to the marketplace. State and local governments use the proceeds of issuance to fund national infrastructure such as roads, schools, hospitals, and other public facilities.

Public infrastructure projects and government spending on development is possible because the issuance of government bonds helps to generate the finance necessary to fund these initiatives. In primary markets, governments can raise the required cash by selling newly issued securities to buyers. In emerging economies, there are clear benefits that accrue to the development process as credit markets grow and deepen. Governments and municipal authorities are able to invest in long-term public works, which ongoing annual tax revenues cannot pay for, and that the market does not provide.

Effective and functioning credit markets facilitate growth and resilience in the corporate sector. Corporations can raise the finance necessary for cash and liquidity management; corporations can also manage the risk associated with the holdings in their portfolio by issuing bonds or other credit instruments.

SMEs are the primary stimulus for innovation-led growth and are the main drivers of such innovation in the world's most developed economies. With banks showing an increasing aversion to risk in the SME lending market, non-bank forms of credit are increasingly important for

financing innovation, proof-of-market research, product/process development and accessing new markets. Whilst equity remains the primary agenda item among policy makers in terms of non-bank financing of investment for growth for SMEs, alternative channels for debt capital can potentially benefit medium sized businesses in the early stages of their development. These smaller businesses often need significant capital injections to achieve their potential and may often be deemed inappropriate for bank finance alone due to their innovative nature.

2.2 The Evolving Credit Demands of Companies

Credit markets supply a range of instruments to meet companies' demand for finance. Where the range of instruments in the marketplace is comprehensive, it effectively serves to supply businesses with credit products which meet their evolving finance needs at different stages of growth.

Depth and breadth in credit markets is integral to private sector productivity. Businesses across all sectors issue financial products to provide them with finance for working capital and new ventures. There are advantages and disadvantages for both credit and equity products, and the relative costs and benefits profile changes as the business itself changes and grows. There are, nonetheless, some core advantages in each.

Credit instruments do not involve any dilution of ownership. Credit, because it does not involve the dilution of ownership, means that owners/managers can engage in quick, effective decision making in alignment with business objectives. Credit products create 'signalling effects' whereby their issuance signals the strength, reliability, and potential for further growth of a business. By issuing equity, a company can limit risk and sensitivity to external macroeconomic conditions which emerge via credit product purchases. By selecting the right equity investor(s), businesses can, especially at the early stages, benefit from the market expertise of the investor with equity investors. Venture Capitalists (VCs) and Angels for example are often willing and eager to have strategic input into the business

strategy and provide expertise to support critical decisions. Equity holders are not paid in the event of bankruptcy, and so the high returns they receive are offset by the relatively lower costs of failure for the business itself. Companies typically begin as small sole proprietorships. These firms are entrepreneurial but usually lack the necessary collateral with which to effectively utilize credit products. At the same time, these firms are eager to exploit external knowledge and expertise via certain forms of equity such as venture capital and some are successful in becoming what policymakers refer to as "high-growth" companies.

As high-growth companies continue to grow, there is a clear relationship between firm-level development and the increasing importance of international credit markets as a source of finance to the business. There is a distinct point at which international credit markets become integral to on-going company growth.¹ This is at the firm-level stage during which a strong presence in the companies' respective market has been well established. At this point, companies begin to balance their portfolios with an increasing proportionate share of credit as opposed to equity.

The various credit markets then serve to match companies' demand for credit in the short, medium, and long-term. International money markets thereafter enable companies to issue loans and make deposits in a variety of currencies to suit their short-term needs; the international bond market, which is dominated by US\$ bonds but with a small but growing issuance in foreign currency-denominated bonds, widens the choice for bond issuers internationally, giving them access to medium and long-term debt finance. Further, syndicated loans involving the joint provision of credit by multiple institutions can meet the demand for substantial medium or long-term financing needs, while the swap market enables mature corporations to utilize a broader range of credit strategies.

¹ See <http://british-business-bank.co.uk/wp-content/uploads/2014/06/The-Business-Finance-Guide-2014.pdf>

2.3 Scope and Scale

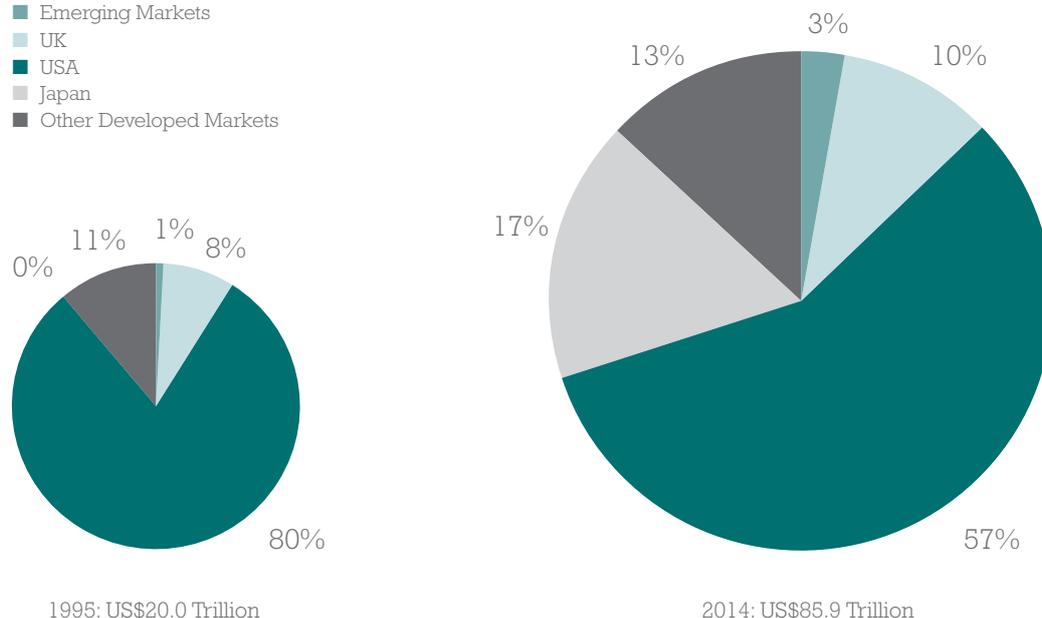
Despite the recent acceleration of growth in emerging credit markets, developed credit markets represent more than 70% of long-term bond issuance across the world. Over the past twenty years the global bond market has more than quadrupled in size. Key drivers of this growth have been a protracted period of government bond issuance in Japan and the increasing importance of emerging markets; this is also a reflection of the growth in global trade as a consequence of globalised supply chains and integrated capital markets.

FIGURE 3
Global Bond Market Outstanding: 1995 & 2014

FIGURE 3
Global Bond Market Outstanding: 1995 & 2014

Source: Bank for International Settlements (2014)

- Emerging Markets
- UK
- USA
- Japan
- Other Developed Markets



2.4 Recent Trends

We have identified a number of important trends in credit markets around the world:

Corporate Debt Markets are Replacing Bank Finance and Growing Rapidly.

Corporate debt markets are growing as corporations seek non-bank credit in the face of constrained bank lending. For corporations, non-bank sources account for nearly all new credit growth since 2008. Non-financial corporations in particular have issued a growing proportion of corporate bonds.

FIGURE 4 OVERLEAF
Stock of Global Financial Assets

China's Public and Private Debt is Growing

Driven by real estate investment and increased lending through shadow banks, China's total debt has quadrupled, from \$7trillion in 2007 to \$28trillion by mid-2014.

FIGURE 5 OVERLEAF
Emerging Market Total Bond Issuance (\$US)

FIGURE 4
Stock of Global Financial Assets

Source: McKinsey Global Institute, BIS & Deutsche Bank (2014)

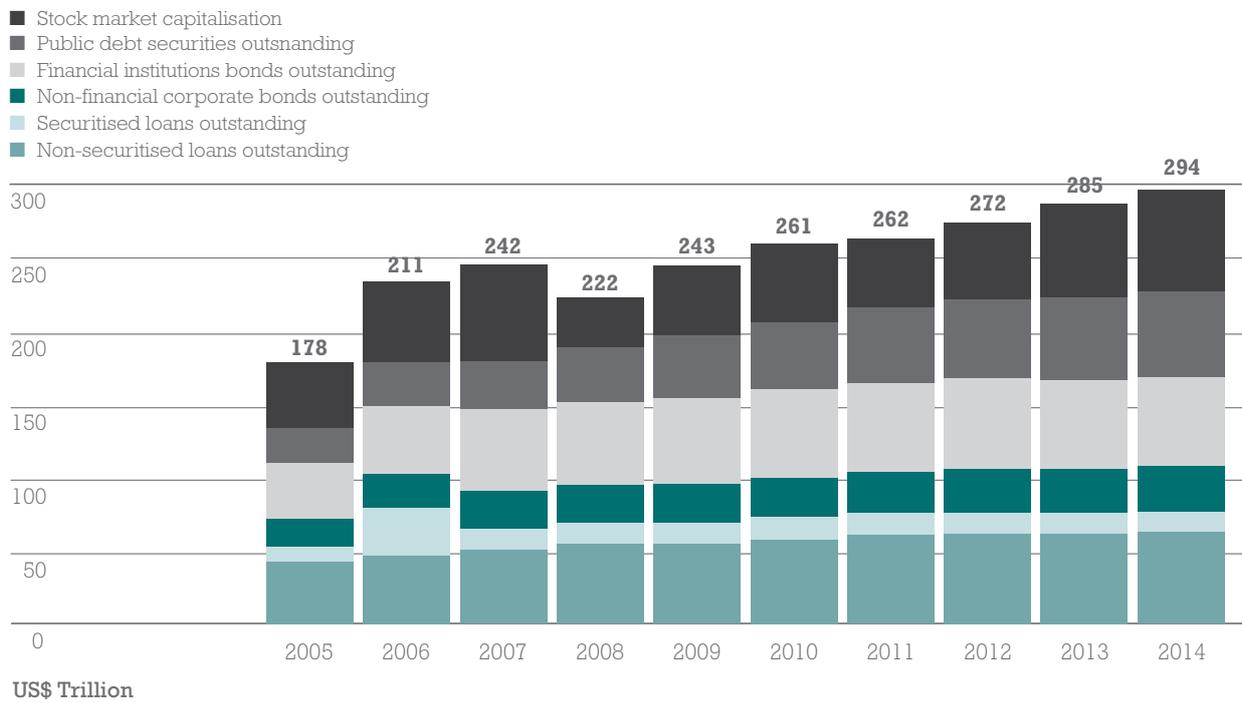
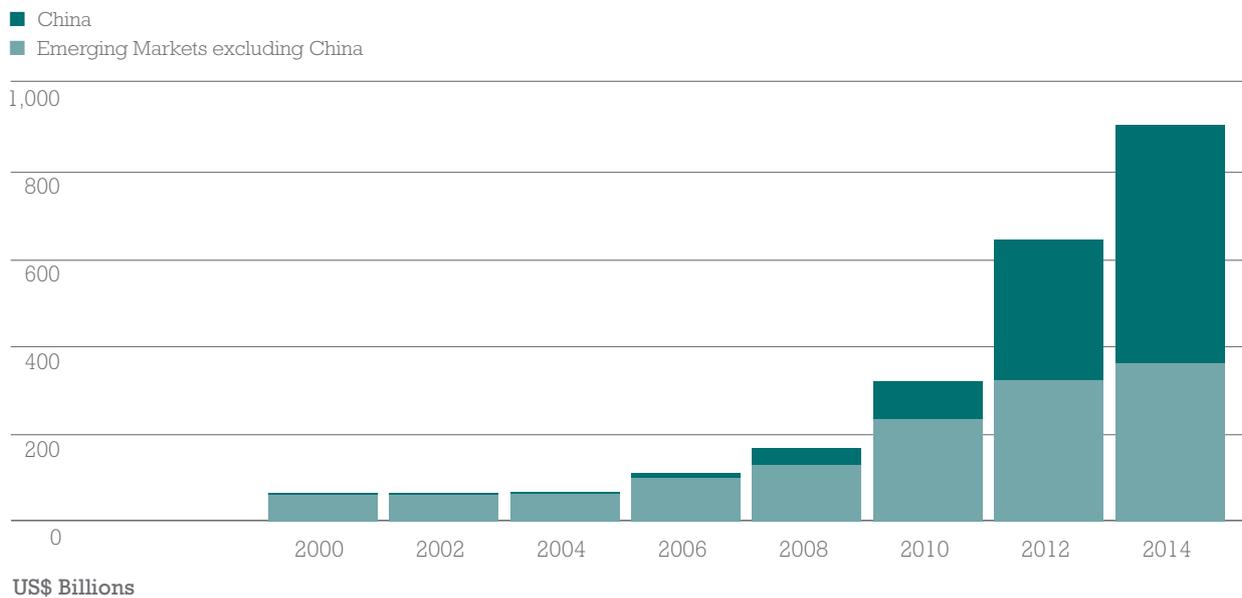


FIGURE 5
Emerging Market Total Bond Issuance (\$US)

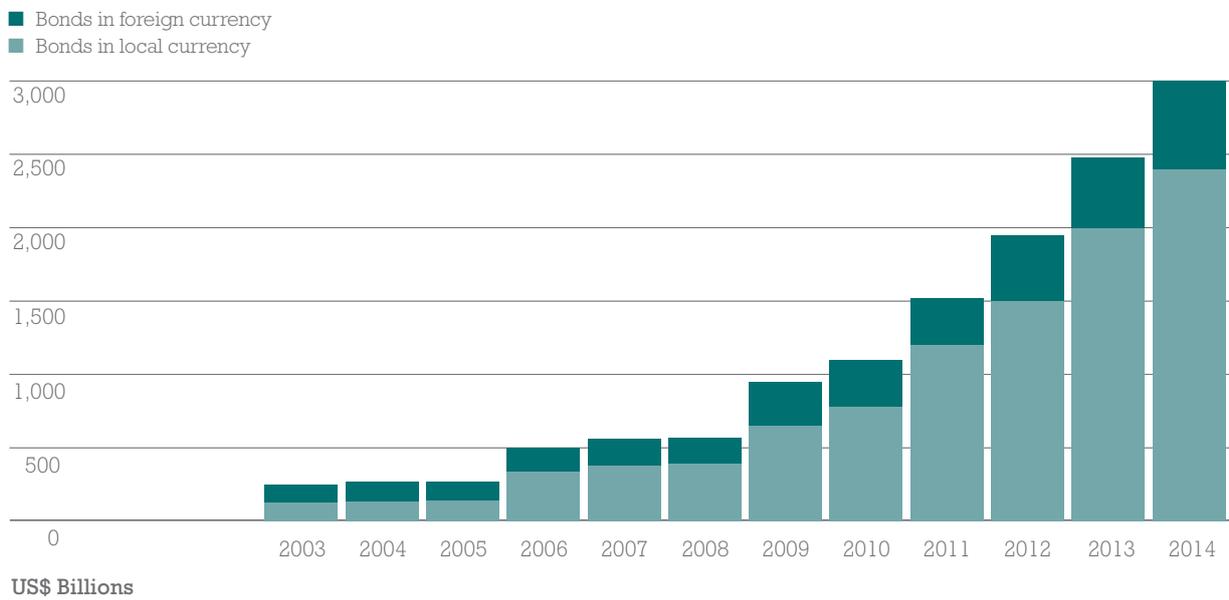
Source: IMF FSR 2015



Corporate Bond Issuance from Emerging Economies is on the Rise.

FIGURE 6
Emerging Market Corporate Bond Composition

Source: IMF FSR 2015

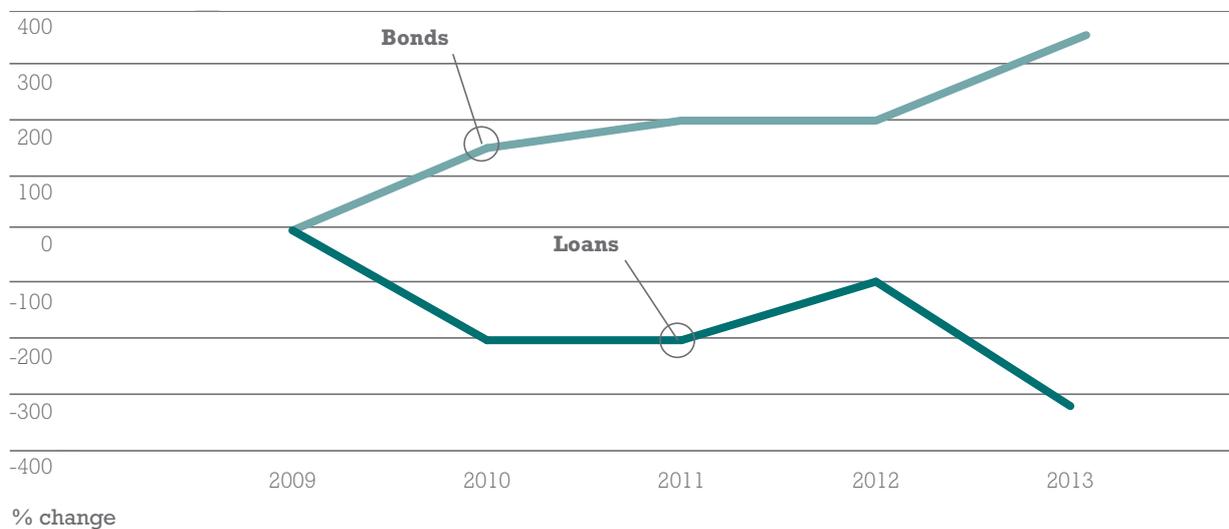


Corporations in the Advanced Economies are Shifting Towards non-Bank Credit.

Bank lending is, in general, being substituted by corporate bond financing in many developed markets, such as the United States, the UK, and other countries in Europe.

FIGURE 7
Percentage Change in Emerging Market loan and bond issuance, 2009-2013

Source: Deutsche Bank, 2013

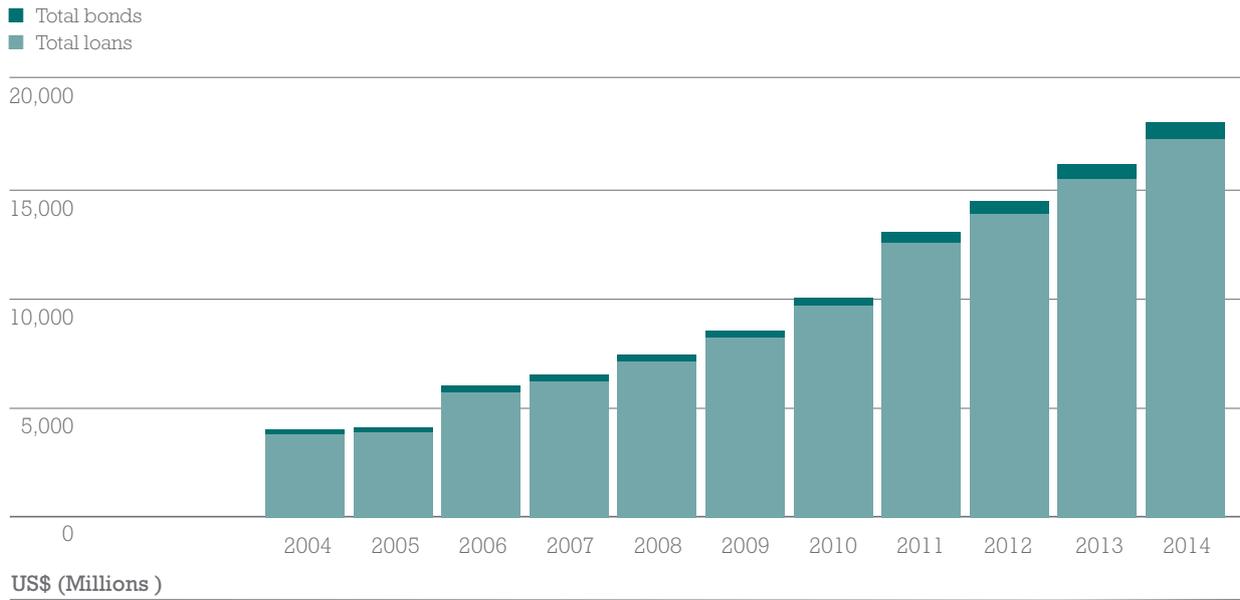


Banks Still Hold the Majority of Emerging Market Corporate Debt.

Corporate bond issuance has grown in absolute terms, but as a proportion of the value of total corporate debt relative to bank lending they remain small.

FIGURE 8
Emerging Market Loans/Bonds in \$USmn

Source: IMF FSR 2015



Product Innovations are emerging within the Global Credit Landscape.

Nascent markets in peer-to-peer lending, covered bonds, and environmental/green bonds are potential high-growth innovations. These markets may be being held back by regulatory constraints, or by market factors and a simple lack of market maturation as

investors have yet to become used to these innovations. However, the peer-to-peer (P2P) business lending market tripled in size in just one year between 2013 and 2014.

FIGURE 9
Value of P2P Markets, 2009-2015

Source: Alfi Liberum, 2015

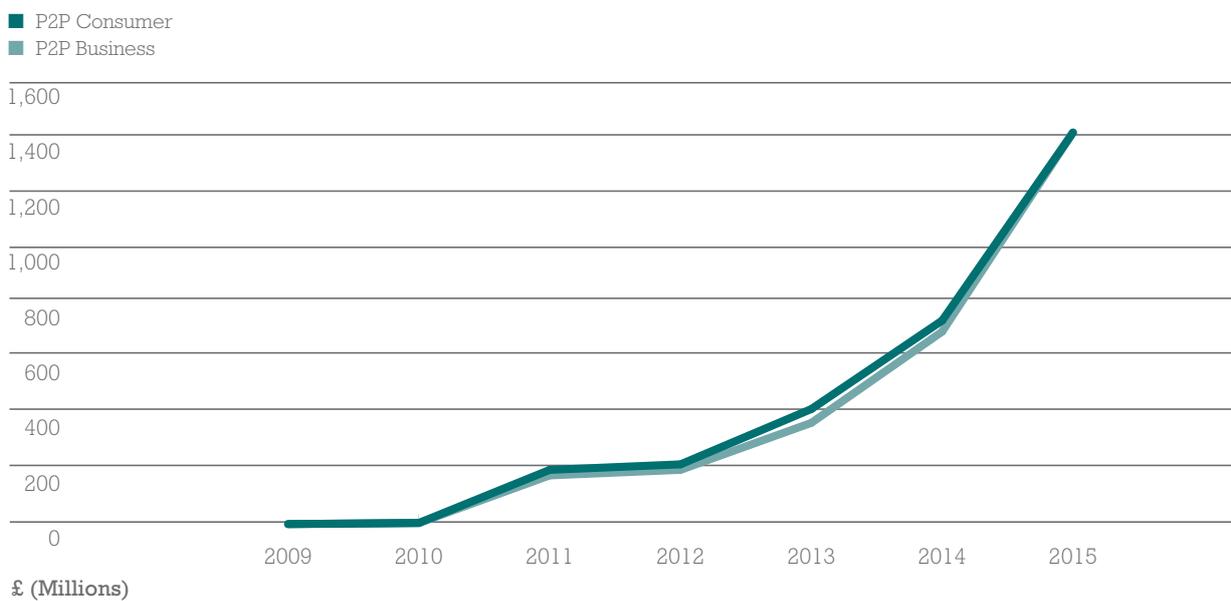
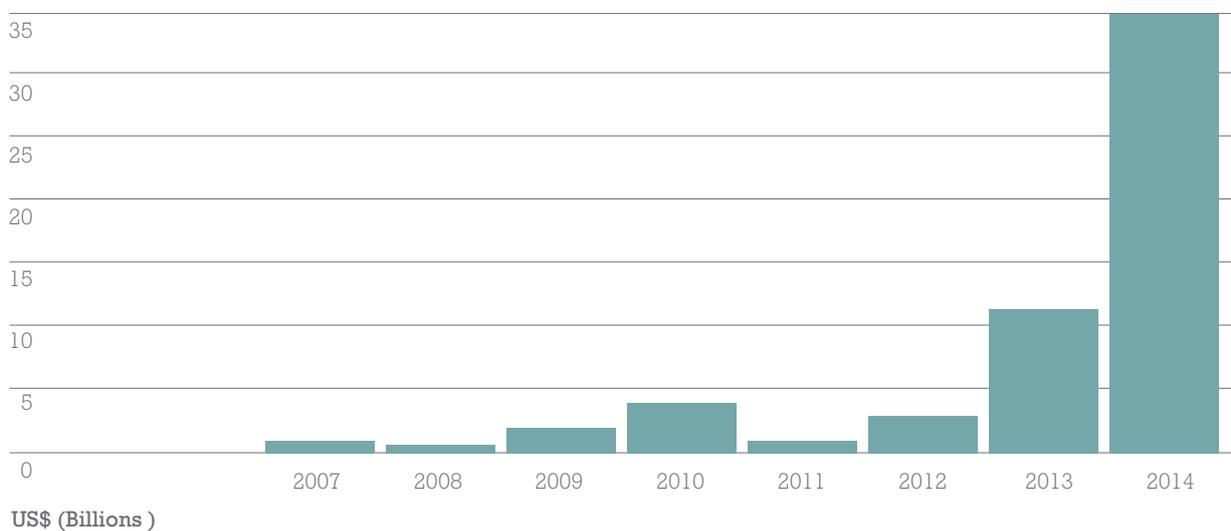


FIGURE 10
Green bonds amount issued (\$bn) 2007-2014

Source: Climate Bonds Initiative, 2015



The Credit Market Assessment Framework (CMAF)

3

3.1 Developing the Framework

The production of the CMAF is a systematic and sequential process. The first phase consists of a comprehensive review of the empirical and theoretical literature pertaining to the development of credit markets. This includes analyses of the conditions for growth and expansion in addition to analyses of empirical data concerning the scope, scale, and recent trends in credit markets globally, regionally, and country-by-country. The main focus, however, is on evidence pertaining to credit market development, and on the policy literature which categorises the core characteristics of effective credit markets. From this literature search, we establish the key structural components of effective and well-functioning credit markets.

In the second phase, the emerging evidence base is used to establish meaningful and accurate stages of credit market development. Using the components of credit markets as a conceptual framework for understanding their development, we arrive at a framework that identifies four key developmental stages – emerging to developing to established to mature. In the third phase we develop a descriptor table that traces the typological features of credit markets across all the core components from one developmental stage to another.

Having conceptually interlinked the components and the stages of development via the production of descriptors, we use them

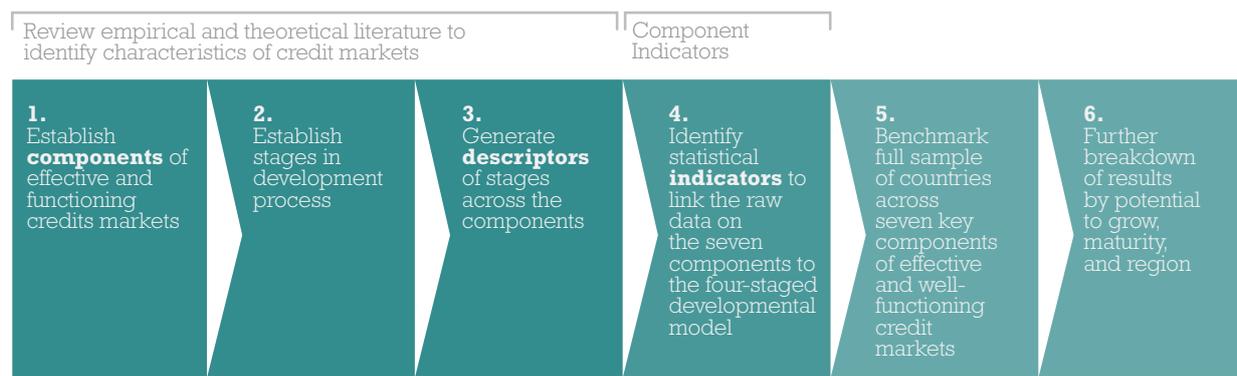
in the fourth phase to develop credit market development indicators. This sequential process is undertaken so that the resultant indicators are empirically mapped to our four stages of development as they capture the important features of credit markets at their various stages of development in the world. As such, they cover the full range of sub-indicators across the seven market components. The database generated is comprehensive in terms of scope, covering credit markets in fifty-nine countries around the World which accounts for 87% of the World GDP and more than 90% of all corporate bond issuances (in 2013).

FIGURE 11
Developing the Credit Market
Assessment Framework

The fifth phase involves benchmarking the full sample of credit markets for fifty-nine countries across the seven components. This enables us to produce a tick-list which rates the development of each component for each respective country. From this, we are able to calculate a composite score across all seven components for each country. This composite score establishes which stage of development any individual market is at.

The sixth and final phase is to undertake a series of analyses exploring the geographic distribution of credit markets at different stages of development; regional differences between credit markets; the potential of credit markets to grow; the impact of credit market development on debt and maturity profiles of specific territories; and the key component drivers of credit market development.

FIGURE 11
Developing the Credit Market Assessment Framework



3.2 The Key Components of Effective and Functioning Credit Markets

From a broad range of empirical evidence, academic literature and policy documents, it is possible to identify seven core components of effective and well-functioning credit markets. These are: legal

framework (including creditor rights); market infrastructure; market regulation; levels of knowledge; investor base; primary markets and secondary markets. The importance of each of these components, and their role and function within credit markets in general, is summarised in Table 2. Appendix 2 provides a detailed rationale emphasising the importance of each component.

TABLE 2
The Key Components of Effective and Functioning Credit Markets

Key component	Rationale
Legal Framework (including creditor rights)	There is considerable evidence that a strong legal framework and, in particular, a strengthening of creditor rights facilitates the expansion of credit markets. As lenders become protected and have surety over assets in bankruptcy, then lending as a percentage of GDP increases and helps foster economic growth.
Market Infrastructure	Information sharing is also crucial in the development of credit market infrastructure. As such, the existence of bodies such as a central credit registry under the control of a central bank and private credit bureaus are key markers in the stages of credit market development. Similarly, the cost of debt collection and the time for recovery after an insolvency event all impact the effectiveness of the lending environment, as does the level of bureaucracy in a particular country.
Market Regulation	As well as having a strong legal framework, it is crucial that investors are confident in the integrity of the market. At a policy level, intervention in the markets by government and central banks creates uncertainty for lenders, and so lower levels of state intervention create a more stable lending environment.
Levels of Knowledge	The level of knowledge that is present in the market is developed in tandem with the development of the market itself. While there will be individuals with similar talents and skills across different regions, the pool of talent on which institutions can draw will be lower at earlier stages of development. At one extreme are countries where the general level of education are low and so there is a narrow, thin pool of talent. At the other are global financial centres (GFCs), such as London and New York, that have access to talent from all over the world as a result of agglomeration effects.
Investor Base	Having a diversified investor base from large domestic institutions such as pension funds, insurance companies, and banks, is crucial in the early stages of credit market development. However, the presence of a wider investor base that includes smaller domestic investors and large foreign investors and institutions increases the depth of the primary market. Moreover, as domestic institutions become larger and more stable, they perform the role of market makers, which is crucial to moving to having a developed credit market.
Primary Markets	The development of a primary market is the first stage in expanding credit markets. Here, the market tends to start with government securities sold to large institutions such as pension funds and insurance companies. Progress here occurs on two fronts, first with an increase in the number of primary market participants to include commercial banks, for example, and second, with an increase in the types of credit instruments sold e.g. municipal bonds and corporate bonds.
Secondary Markets	The presence of a functioning secondary market for credit products is crucial for market liquidity. Allowing a wider pool of investors to access credit products increases market liquidity and depth, and creates greater capital mobilization for investment in credit markets so more credit can be issued.

3.3 Development Stages of International Credit Markets

In order to understand how the seven key components described above contribute to the development of credit markets around the world, we have sought to identify a clear set of descriptors that can usefully differentiate between each of the seven key components of credit markets at different stages of their respective development. To that end, the descriptors differentiate between four key stages of credit market development – emerging, developing, established and mature – and are represented in the table below.

FIGURE 12
Credit Markets by Region

	Emerging
Legal Framework	Partial rule of law, high instances of bribery and corruption, weak creditor rights.
Market Infrastructure	There is no public and/or private credit registry, there is little or no depth to the credit information in the market, very high cost of enforcement and recovery.
Market Regulation	Weak credit market access with regular interventions in markets from the state.
Levels of Knowledge	Low levels of education and very limited access to advanced education
Investor Base	Investors are banks, with little to no investment from domestic pension funds insurance companies. There is no real mutual fund industry or other collective investment vehicles.
Primary Markets	Some international debt issuance (government), with limited or no corporate bond issuance and no syndicate loan issuance.
Secondary Markets	Low amounts of international debt securities outstanding; low levels of liquidity and of private to public debt.

	Developing	Established	Mature
	Moderate rule of law, moderate levels of bribery and corruption, some creditor rights.	Strong rule of law, low levels of bribery and corruption, increasing creditor rights.	Strong rule of law, very low levels of bribery and corruption, strong creditor rights.
	There is a public and/or private credit registry, the depth of information in the market is low, high cost of enforcement and recovery.	There is a public and/or private credit registry, the depth of information in the market is moderate, moderate cost of enforcement and recovery.	There is a public and/or private credit registry, the depth of information in the market is high, low cost of enforcement and recovery.
	Moderate credit market access with infrequent interventions in markets from the state.	Good credit market access with limited interventions in markets from the state.	Good credit market access with almost no interventions in markets from the state
	Moderate levels of education and some access to advanced education.	High levels of education and moderate access to advanced education.	High levels of education and high access to advanced education.
	Investors are banks, with some pension funds insurance companies, with little investment from mutual funds and other collective investment vehicles.	Investors are mainly banks, pension funds insurance companies, with an increasing investment from mutual funds and other collective investment vehicles.	There is a broad investor base comprising banks, pension funds insurance companies, mutual funds and other collective investment vehicles.
	Moderate international debt issuance (public), with some corporate bond issuance and no syndicate loan issuance.	Moderate international debt issuance (public and private), with increasing corporate bond issuance and some syndicate loan issuance (corporate issuance and syndicated issuance are negatively related).	High levels of international debt issuance (public and private), with both corporate bond issuance and syndicate loan issuance (corporate issuance and syndicated issuance are negatively related).
	Moderate amounts of international debt securities outstanding; increased levels of liquidity and of private to public debt.	Moderate amounts of international debt securities outstanding; moderate levels of liquidity and of private to public debt.	Higher amounts of international debt securities outstanding; higher levels of liquidity and of private to public debt.

3.4

Credit Market Assessment: Full Sample

We used the CMAF to benchmark the development of the full sample of fifty-nine countries across all the seven components outlined above. Table 4 shows these scores by component and the overall score for each country.

TABLE 4:

CMAF for all countries: by component

TABLE 4
CMAF for all countries: by component

- ✓ Typical of emerging credit market
- ✓✓ Typical of developing credit market
- ✓✓✓ Typical of established credit market
- ✓✓✓✓ Typical of mature credit market

Credit Market	Legal Framework	Market Infrastructure	Market Regulation	Levels of Knowledge	Investor Base	Primary Markets	Secondary Markets	Overall
Argentina	✓	✓✓✓✓	✓	✓✓✓	✓	✓	✓	✓
Australia	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓
Austria	✓✓✓✓	✓✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓✓
Azerbaijan	✓	✓✓✓✓	✓	✓✓	✓	✓	✓	✓
Bahrain	✓✓	✓	✓✓✓✓	✓✓	✓✓	✓✓✓	✓✓	✓✓
Belgium	✓✓✓	✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓
Brazil	✓	✓✓✓	✓	✓✓	✓✓✓	✓✓	✓✓✓	✓✓
Chile	✓✓✓	✓✓	✓✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓
China	✓✓	✓✓✓	✓	✓	✓✓✓	✓	✓✓✓	✓✓
Colombia	✓✓	✓	✓✓✓	✓	✓✓	✓	✓	✓
Costa Rica	✓✓	✓✓	✓	✓✓	✓✓	✓	✓	✓✓
Croatia	✓✓✓	✓✓✓	✓✓✓	✓✓	✓✓✓	✓✓	✓✓	✓✓✓
Cyprus	✓✓✓✓	✓	✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓✓
Dominican Rep	✓	✓✓✓	✓	✓	✓	✓	✓	✓
Egypt	✓	✓	✓	✓	✓	✓	✓	✓
El Salvador	✓	✓✓✓	✓✓✓	✓	✓✓✓	✓✓	✓	✓✓
Estonia	✓✓✓	✓✓	✓✓✓✓	✓✓✓✓	✓✓	✓✓	✓✓	✓✓✓
Finland	✓✓✓✓	✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓	✓✓✓	✓✓✓✓
France	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓
Georgia	✓✓✓	✓✓✓	✓✓✓✓	✓✓	✓	✓✓	✓	✓✓✓
Germany	✓✓✓✓	✓✓✓✓	✓✓	✓✓✓✓	✓✓✓✓	✓✓✓	✓✓✓	✓✓✓✓

Improving International Access to Credit Markets

Credit Market	Legal Framework	Market Infrastructure	Market Regulation	Levels of Knowledge	Investor Base	Primary Markets	Secondary Markets	Overall
Greece	✓✓	✓✓	✓✓	✓✓✓	✓✓	✓✓✓	✓✓✓	✓✓
Guatemala	✓✓	✓	✓✓	✓	✓	✓	✓	✓
Hong Kong	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓
Iceland	✓✓✓✓	✓✓✓✓	✓✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓
India	✓✓	✓	✓	✓	✓✓	✓	✓✓	✓
Indonesia	✓	✓	✓	✓	✓	✓	✓✓	✓
Ireland	✓✓✓✓	✓✓	✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓
Italy	✓✓	✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓
Jamaica	✓✓	✓	✓✓	✓✓	✓	✓✓✓✓	✓✓	✓✓
Japan	✓✓✓	✓✓✓✓	✓✓	✓✓✓	✓✓✓✓	✓✓	✓✓✓	✓✓✓
Kazakhstan	✓	✓✓✓	✓✓	✓✓✓	✓	✓✓	✓✓✓	✓✓
Lebanon	✓	✓	✓	✓	✓✓	✓✓	✓✓	✓
Luxembourg	✓✓✓	✓✓	✓✓✓✓	✓✓✓	✓✓	✓✓✓✓	✓✓✓	✓✓✓
Malaysia	✓✓✓	✓✓✓✓	✓✓✓	✓✓	✓✓✓✓	✓✓✓	✓✓✓✓	✓✓✓
Mexico	✓	✓✓✓	✓✓✓	✓✓	✓✓	✓✓	✓✓	✓✓
Netherlands	✓✓✓✓	✓✓	✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓
Nigeria	✓	✓	✓✓	✓	✓	✓	✓	✓
Norway	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓
Pakistan	✓	✓	✓	✓	✓✓	✓✓✓	✓✓	✓
Paraguay	✓	✓✓	✓✓	✓	✓	✓	✓	✓
Peru	✓✓	✓✓✓	✓✓✓	✓✓	✓✓	✓	✓✓	✓✓
Philippines	✓	✓	✓✓✓	✓	✓	✓✓	✓✓	✓
Portugal	✓✓	✓✓✓✓	✓✓	✓✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓✓
Qatar	✓✓✓	✓	✓✓	✓✓	✓	✓✓✓	✓✓	✓✓

Credit Market	Legal Framework	Market Infrastructure	Market Regulation	Levels of Knowledge	Investor Base	Primary Markets	Secondary Markets	Overall
Russia	✓	✓✓✓✓	✓	✓✓✓✓	✓	✓✓	✓✓	✓✓
Singapore	✓✓✓✓	✓✓	✓✓✓✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓✓	✓✓✓✓
Slovak Republic	✓✓✓	✓	✓✓✓	✓✓✓	✓✓	✓✓	✓✓	✓✓✓
South Africa	✓✓✓	✓✓	✓✓✓	✓✓	✓✓✓✓	✓✓	✓✓	✓✓✓
South Korea	✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓✓✓
Spain	✓✓✓	✓✓✓	✓✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓✓✓
Switzerland	✓✓✓✓	✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓	✓✓✓✓
Thailand	✓✓	✓✓✓	✓✓✓	✓	✓✓✓	✓✓✓	✓✓✓	✓✓
Turkey	✓✓	✓✓✓	✓✓	✓✓	✓✓	✓	✓	✓✓
Ukraine	✓✓	✓	✓	✓✓✓✓	✓	✓✓	✓	✓✓
United Kingdom	✓✓✓✓	✓✓	✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓	✓✓✓✓
United States	✓✓✓✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓	✓✓✓✓
Uruguay	✓✓✓	✓✓✓✓	✓	✓✓	✓✓	✓✓	✓	✓✓
Vietnam	✓✓	✓✓	✓	✓	✓✓	✓	✓	✓

3.5 Credit Markets by Region

Figure 12 shows the countries which are emerging, developing, established and mature by geographic region. The USA features as the only mature credit market in North and Central America, with no established markets in the region. The USA is the dominant player in this region, and the markets featuring as emerging are intimately tied to the US market.

In Europe, the mature markets are spread relatively equally across the geographical zone, from Spain in the South-West, through Northern Europe and into Scandinavia. Particularly interesting in Europe is the strong presence of Eastern European, ex-Soviet Republic markets in the established grouping. In Asia and Australia, the global hubs (Singapore and Hong Kong) feature alongside Australia and the South Korea in the mature grouping, with China as the only developing credit market and India featuring in the emerging group.

For the Middle East / Africa and for South America, there were no markets featuring in the mature grouping. South Africa, in large part due to the long established integration of the country's resource sector into international commodity markets, emerges as an established market with no peers in its region, as does Chile in the case of South America.

FIGURE 12
Credit Markets by Region



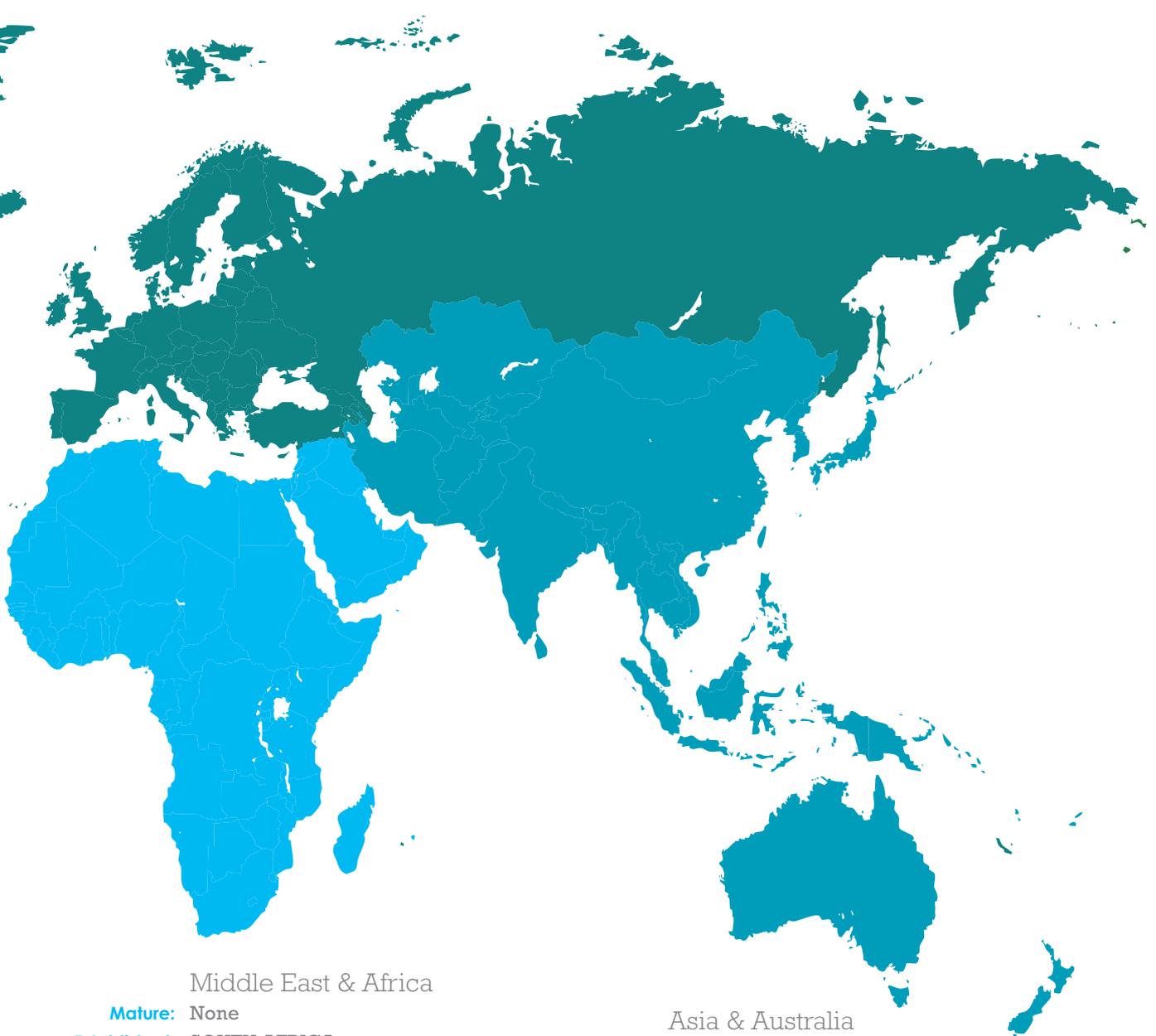
Europe

Mature: BELGIUM, GERMANY, FRANCE, IRELAND, NETHERLANDS, NORWAY, SPAIN, SWITZERLAND, UNITED KINGDOM

Established: ITALY, LUXEMBOURG, PORTUGAL, SLOVAK REPUBLIC, GEORGIA, ICELAND, CROATIA, CYPRUS, ESTONIA, AUSTRIA

Developing: GREECE, RUSSIAN FEDERATION, KAZAKHSTAN, TURKEY, UKRAINE

Emerging: AZERBAIJAN



Middle East & Africa

Mature: None

Established: SOUTH AFRICA

Developing: BAHRAIN, QATAR

Emerging: EGYPT, NIGERIA, LEBANON

Asia & Australia

Mature: AUSTRALIA, HONG KONG SAR, CHINA, SOUTH KOREA, SINGAPORE

Established: JAPAN, MALAYSIA, THAILAND

Developing: CHINA

Emerging: INDIA, INDONESIA, PAKISTAN, PHILIPPINES, VIETNAM

Benchmarking Individual Credit Markets

4

This section applies the robust scoring method developed above, the Credit Market Assessment Framework (CMAF), to eleven credit markets in different locations and different stages of development within the international financial system. It provides an overview of the financial system within which the individual credit market operates; an empirically informed narrative overview of the individual credit market under consideration; an application of the CMAF to benchmark different components of the credit market; and finally, an illustrative case highlighting recent developments in a relevant instrument specific to that market.

4.1

China

China is pursuing market liberalisation, financial system reform and RMB internationalisation, slowly but consistently.

Driven by a strong incentive to diversify credit risk and finance infrastructure development, the Chinese government bond market is growing rapidly.

In terms of its legal framework and the regulation of its credit markets, China has ample room for further development. Levels of market knowledge can be improved.

The credit market infrastructure in China is very strong given China's relatively late entry onto the global marketplace, with the investor base growing in diversity and depth.

Overview

China's financial system reforms have resulted in market development progressing at a fast pace. The authorities are seeking to shift the financial sector from a centrally directed system to one that is commercially driven and financially sound. The system is becoming more transparent as it opens up. China is facing a number of potential sources of risk, including greater exposure to external shocks. Data collection and market information exchange needs strengthening and a stronger domestic framework is needed for addressing problem institutions and practices.

Banks dominate the Chinese financial system, providing around 60% of the total credit outstanding in the private sector. They provided the Chinese private sector with credit amounting to about 128% of Gross Domestic Product (GDP) in 2012, compared to 48% for the USA. The bond market is under-developed, providing credit equivalent to approximately 41% of China's GDP, compared to 243% in the USA. Corporate bonds accounted for a very small proportion of the bond market until recently. The corporate bond market is, nevertheless, growing rapidly.

Demand for credit and other forms of investment in China is likely to grow faster than GDP (and tax revenues) so China is experiencing a need for private sector credit which can be used to fill the investment gap and drive efficiencies. Key barriers to productive investment include a lack of well-structured projects. Private companies have to incur large fixed costs in agreeing to and securing well-structured and legally sound projects.

Various measures and policy instruments are being implemented to deliver a more effective credit environment. These include measures to improve transparency; the collation of robust financial data from local governments and state owned companies, and a push for banks to put shadow investments on balance sheets. In the medium-term, the focus remains on infrastructural investment. Another important avenue of strategy is for China to move up the 'value chain', which will again require different credit provisions. Longer term, China will need to switch to a more consumption-based socio-economy.

China

Credit Markets

The assessment of China has highlighted some interesting developments within this market. The legal system does not score particularly well, although it seems to be on a trajectory of gradual improvement. In looking at the credit market infrastructure in China, this has scored very highly. China has made significant leaps in terms of a public credit registry and the coverage and depth of information held has increased significantly in recent years. China does not score highly on market regulation. Overall, there is a significant amount of intervention, despite the moves to greater liberalisation of markets.

In China, investor knowledge and the investor base both have capacity to develop further. The low level of knowledge in the economy is a function of the wider development of China. Moreover, the investor base is growing. Lastly, there is scope for growth of both the primary and secondary markets in China. Relative to the considerable GDP of China they remain small. China, however, like Singapore, has a number of sovereign wealth funds, and whether a trajectory of developed market credit levels is necessary remains to be seen.



TABLE 5

The Key Components of Effective and Functioning Credit Markets

Debt and Maturity Profile of Credit Market	China	World
Outstanding Domestic Public Debt to GDP (%)	15.37	31.16
Outstanding Domestic Private Debt to GDP (%)	29.75	28.16
Outstanding International Public Debt to GDP (%)	0.11	4.95
Outstanding International Private Debt to GDP (%)	1.53	9.12
Corporate bond issuance volume to GDP (%)	3.08	2.55
Corporate bond average maturity (years)	5.26	7.83

Source: World Bank Global Financial Development Database, 2013

Case study: Chinese Government Bonds



By widening its base of foreign investors via the expansion of its QFII and RQFII quotas, China's government bond market is growing.



Complexity in regulatory mechanisms and a lack of transparency in disclosure rules still hinder ongoing growth and development of this market.

The People's Republic of China bond market is comprised of an inter-bank bond market and exchange markets. The inter-bank bond market accounts for about 94% of outstanding bond value, as well as 99% of bond trading volume (Goldman Sachs, 2015). The Chinese government bond market is growing due to China's corporations' heavy reliance on bank loans. The government has a strong incentive to develop a robust bond market and to encourage corporations to raise funds via bond issuance, as this would help to diversify the credit risk currently concentrated in the banking system. Chinese government bonds outstanding grew 9.9% quarter-on-quarter and 20.6% year-on-year in Q3 2015, driven by an expansion in treasury bond issuance, which grew rapidly in 2015 (World Bank, 2015).

Chinese government bond markets were, until 2002, nearly entirely closed to foreign issuers, investors, and intermediaries.

Purchases can now be made by Qualified Foreign Institutional Investors (QFIs). These institutions are granted investment quotas by the State Administration of Foreign Exchange (SAFE). SAFE has launched a range of bureaucracy-reducing measures over the past ten years, being eager to redress constraints to international access. By the end of April 2015, the SAFE, which also sets RMB-denominated quotas for Renminbi Qualified Foreign Institutional Investor schemes (RQFIs) and establishes the rules governing their participation in the Chinese capital markets, had granted a total of RMB363.7bn RQFI quota to 121 institutions (PWC, 2015B). The widening of international access for foreign issuers in the Chinese government bond market would rely on disclosure rules which are congruent and translatable. China's current legal and regulatory frameworks pose significant limitations to the implementation of standard securitisation. There are legal restrictions in the legislature which hamper the market in securitised assets, such as the Company Law, which effectively rules out establishing the types of special purpose vehicles regularly used in other credit markets around the world.

SAFE has recently eased the upper limit on the investment quota of single QFIs. It has also simplified its internal quota approval management systems to make them operate significantly faster; and it has stipulated that QFIs will now be allowed to subscribe and redeem open-end funds on a daily basis, in order to facilitate inward and outward remittances of funds. SAFE is engaging in these and other policy relaxations and is working quickly and determinedly to grow this market.

4.2

Germany

With a stable financial system, a large resilient economy, and a favourable business environment, Germany has a mature credit market.

Germany's strategic model places more focus on inclusivity in its credit markets, with accessibility among high-growth SMEs being a core priority.

With little scope for further large scale expansion of its credit markets, Germany exhibits a high degree of innovative market practice.

One of these nascent markets is the schuldschein market; despite issues around standardisation and cross-border informational discrepancies, this market is growing in value and diversifying its investor and issuer profile.

Overview

Frankfurt is ranked 18th most globally competitive financial market by the Global Financial Centres Index.² Total assets in the German financial system stand at \$11.9tr; this is much smaller than the UK and USA, but still large by international standards. The German financial system is based on a traditional bank-based approach with assets encompassing 270% of GDP in 2014, and amounting to EUR7.9tr in September 2015.³ The insurance sector is the second largest financial sector behind banking with premium income of more than EUR180bn and total assets of EUR1.4tr. In addition, Germany is the leading re-insurer globally with 30% of sales worldwide.⁴

As with other advanced economies, financial linkages with the rest of the world have grown rapidly. The recent financial situation in Germany is characterised by low interest rates combined with substantial provision of liquidity by the central bank. Banking profitability remains structurally weak and is, therefore, susceptible to economic shocks. The long period of low interest rates may also be causing financial firms to seek higher yields in riskier markets thus increasing vulnerability. On the other hand, banks and insurance institutions have maintained very secure asset portfolios. A sizeable chunk of the recent strife in the financial sector was related to assets based abroad and, as such, banks have reduced the share of these assets as a whole though the financial market is still highly globalised.

Germany is pursuing a different approach to credit market expansion and development

compared with the UK and the USA. Germany has a high level of what is often referred to as “financial inclusion” in its credit markets – a measure not necessarily of depth but of accessibility of credit for all strata of society and business (Neuberger, 2015). This “inclusive” model of credit market development has been honed and fine-tuned in recent years. Germany’s experience of the global financial crisis and fears around over-indebtedness to financial markets has shifted the policy focus of the state towards responsible inclusive finance, whereby the range of credit products available in the marketplace and the mechanisms by which these are accessed are suitably aimed at as large a range of firms, sectors and market participants as possible. This approach is buttressed by a range of different regulations as well as a series of institutions designed specifically to increase access to appropriate credit for small- and medium-sized enterprises (SMEs), and high growth firms. Empirical international comparative studies have evidenced that the German “housebank” model is very effective in helping to reduce barriers to accessing finance for SMEs.

Germany is advanced in terms of credit information sharing. The country has a 100% private credit bureau coverage score by the World Bank (Neuberger, 2015). It has an established norm of private credit bureaus covering the market. Only large credit transactions, those exceeding EUR1 million, are registered with the German Central Bank. Smaller products purchased by SMEs or entrepreneurs are registered solely by private credit bureaus.

² Global Financial Centres Index 19, 2016

³ See: http://www.en.gdv.de/wp-content/uploads/2014/11/Statistical_Yearbook_2014.pdf

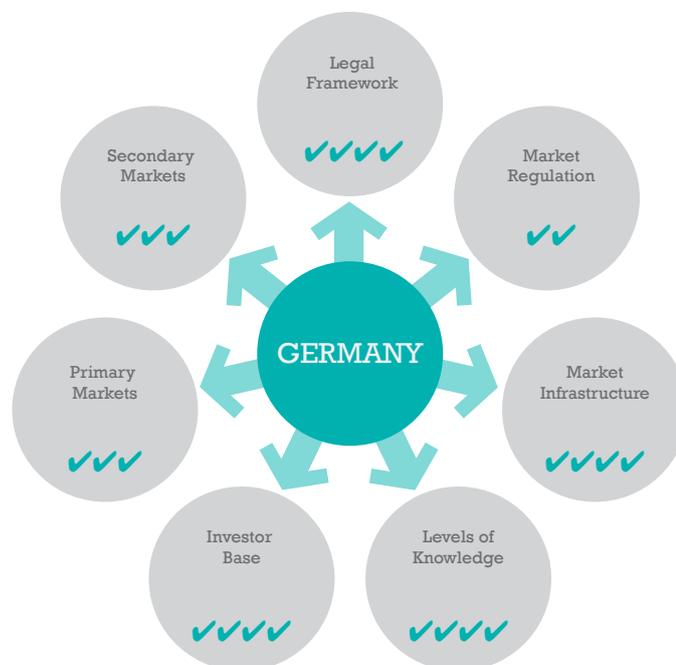
⁴ See: http://www.en.gdv.de/wp-content/uploads/2014/11/Statistical_Yearbook_2014.pdf

Germany

Credit Markets

In examining Germany, there is a clear split between the capacity for substantial growth in credit markets and the types of infrastructure required to allow for mature and established credit markets to be present. While Germany has not been as badly impacted as many other Eurozone economies throughout the banking crisis of 2008 and the subsequent Euro crisis in 2009, there have been some effects. As with other developed market economies, Germany scores well regarding its legal framework and its credit market infrastructure. Given that the German economy can be classified as bank orientated, it is unsurprising to see that the credit market infrastructure ranks very highly here. In looking at the market regulation score, Germany does not rank as highly as one would expect. This is due to the influence of financial freedom in market regulation. As a result of the two recent crises, the German government has been interventionist and this has pulled down its market regulation score.

In looking at knowledge and the investor base, it is clear that there are high levels of skills present in Germany, and that there is a broad investor base, which is a key feature of a developed market. Germany has significant



assets in the insurance and re-insurance sectors, as well as significant pension fund assets and a substantial mutual fund industry, giving it both breadth and depth. However, regarding the capacity for German credit markets to expand, there is not much scope for this. Although Germany is not as indebted as many other Eurozone economies, it still has large amounts of public and private debt, and so the capacity to grow is limited at best.

TABLE 6

The Key Components of Effective and Functioning Credit Markets

Debt and Maturity Profile of Credit Market	Germany	World
Outstanding Domestic Public Debt to GDP (%)	49.33	31.16
Outstanding Domestic Private Debt to GDP (%)	27.81	28.16
Outstanding International Public Debt to GDP (%)	3.39	4.95
Outstanding International Private Debt to GDP (%)	55.22	9.12
Corporate bond issuance volume to GDP (%)	2.21	2.55
Corporate bond average maturity (years)	6.41	7.83

Source: World Bank Global Financial Development Database, 2013

Case study: Schuldschein (private placement)



By limiting the bureaucratic processes involved in the issuance of schuldschein, Germany has built a strong market for private placements.



Fragmented legal-regulatory and taxation systems hamper this intrinsically localised market from widening its international accessibility.

The schuldschein (or 'private placement') is a bond that does not need to be registered at a stock exchange, meaning there is no need for the development of a time-costly prospectus. The requisite documentation is shorter and simpler than with loan documentation. A range of maturities, interest structures, currencies and lending amounts can all be tailored as required to create a bespoke product. Issuance volumes in 2014 had a total outstanding value of €12.1bn (Scope Ratings, 2015).

The largest debtors in the schuldschein market are the German states followed by municipal authorities. While large private placements from corporates have historically dominated the segment of issues in excess of €400m (Ernst and Young, 2015), the issuer profile is becoming increasingly diverse with a growing volume of schuldschein being issued by mid-sized corporates. This is reflected not only in the increased share of mid-sized corporates (>20% by 2014), but also in the decreasing average transaction size (Simmons and Simmons, 2014). Of the institutional investors, some of the most important investor groups are insurance companies and pension funds.

International attention is growing in this market. Of the 80 schuldschein issued in 2011, 12 came from European companies outside of Germany. In September 2012, around 30% of all issues were by foreign debtors; this corresponds to just under a quarter of the total volume in euros (Meves, 2012). The private placement market in the UK is underdeveloped relative to the German and French markets. The UK Government is, however, committed to incentivising investor and issuer engagement with this type of credit instrument. The Finance Bill 2015 provided that a payment of interest on a private placement would be exempt from withholding tax if it is interest paid on a qualifying private placement.⁵

A key barrier to participation in the schuldschein market and private placement markets is the lack of cross-border standardisation of documentation. There is, however, a significant push from European leaders towards a pan-European, unified private placement market as a global complement and inter-regional competitor to the mature US market. Although no common standards have emerged for schuldschein transactions, market-accepted processes have been created when transferring schuldschein. Due to their contractually enhanced fungibility, schuldschein represent an attractive instrument for entering the capital market. Schuldschein are often regarded as a precursor to a bond issue and a valuable market mechanism of diversification and widened access to credit.

⁵ See: <http://www.internationaltaxreview.com/Article/3464703/Private-placement-New-withholding-tax-exemption-to-stimulate-UK-market.html>

4.3

India

India's rapidly growing consumer middle class, significant GDP growth since the Second World War, and relative sectoral diversity mean that it has vast economic potential.

India's financial markets overall, and private sector credit markets specifically, are stunted in facilitating this potential growth.

The Government and the Reserve Bank of India (RBI) are trying to redress the structural constraints to the development of the corporate bond market.

There is a need to tackle corruption and to develop the insurance, pension fund, and mutual fund sectors. Foreign investors have historically encountered critical barriers to credit market participation in India.

“Talk of opening up India's bond markets is as old as the hills. Remember, its 6 years since *A Hundred Small Steps* [a 2009 report on India's financial sector reforms by the Committee of Financial Sector Reforms]. What has changed is the confidence of investors in India's new government and its commitment to reform – finally – this area. This is reflected in more sub-investment grade issuance over the past year or two. I think this reflects a wider confidence in India's potential to deepen its financial markets and to expand them in the face of enormous demand for capital amongst Indian companies. The move to lower withholding tax on offshore bonds from 20% to 5% was a very important step. But there is much more to do. There are unnecessary restrictions on the end-use of offshore issued debt, for example. Also, the RBI intervenes directly in setting limits on coupon rates of issued debt. But these limits are not suitable for sub-investment grade debt issuance.”
Managing Director (Fixed Income) at Indian Investment Brokerage

Overview

India possesses the second biggest population in the world (1.2bn people) and the fourth biggest economy. Over the past 65 years, India has shown impressive economic development. GDP has risen exponentially, life expectancy has doubled and literacy has quadrupled. However, India's economic potential is still not being fully utilised and the road ahead may be challenging.

Total financial assets rose to \$2.8tr in 2013, in contrast to India's closest comparator, China, with \$34tr (World Bank 2015 data). The credit market has seen improvements, with corporate and retail loans increasing to \$1.1tr in 2015. Public sector banks dominate the market but these are relatively inefficient, providing only one third of the levels of profitability of rival private banks. The insurance sector has traditionally been dominated by the state-owned Life Insurance Corporation, which held \$54.4bn in assets in 2012, and the General Insurance Company, with \$11.7bn of assets in the same year (OECD, 2015P). In 2000, private insurance companies were allowed to operate in the market. However, very few of India's population are insured relative to other more developed economies.

The Reserve Bank of India (RBI) is now fairly independent, but it still manipulates the flow of credit to assist the government. Some 40% of loans must be directed to "priority sectors", that are mainly in agriculture. Taken together, these rules mean that 58% of the deposits raised are deployed according to the government's preferences.

India is pursuing a strategy which targets the development of the corporate bond market as the core instrument in its credit markets, on the premise that this market is best suited

to enable corporates to access finance for growth, and in order to use the sector as a driver of other instrument-specific markets. In India, foreign buyers of government bonds must go through a cumbersome registration process and use a local clearing system. Many global investors, including pension and sovereign wealth funds, have rules that prohibit securities that are not listed on platforms such as Euroclear or Clearstream, thus precluding trading in Indian bonds. Euroclear, the world's largest securities settlement system, is pressing ahead with plans to include Indian government bonds on its platform by the end of 2016.

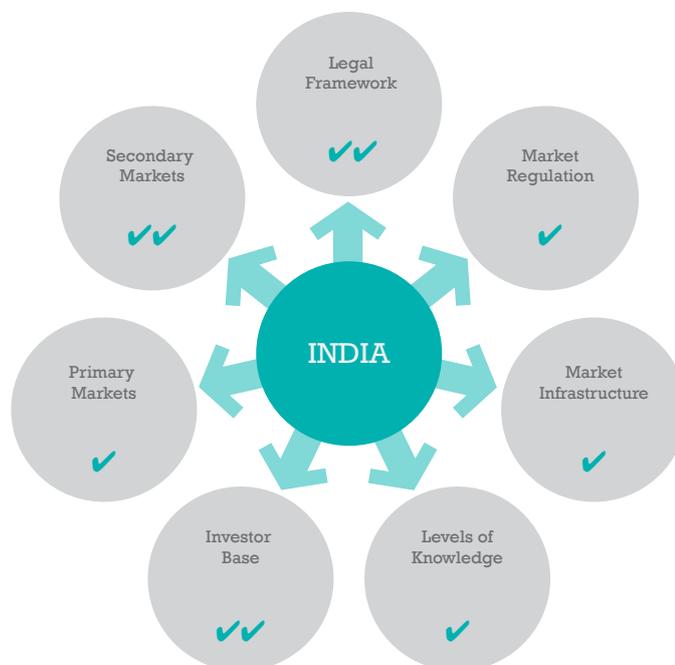
India's government debt market is worth \$645bn. Because of regulatory restrictions, foreign investors hold just 3.7% of that amount. Indian regulators are beginning to clear the way for the electronic trading of interest rate swaps as part of the RBI's drive to increase trade volumes in the country's under-developed domestic debt markets. This shift to an anonymous and more transparent electronic trading platform is expected to boost trading volumes for rate swaps.

India

Credit Markets

In assessing India, there is significant scope to improve credit markets and the infrastructure necessary for their development. The legal system in India does not rank particularly highly. The system is not transparent and there remain issues of corruption and bribery, all of which hamper the development of a strong credit market. Moreover, India scores low on infrastructure and it lacks the level of coverage needed for a public/private bureau to be effective. Similarly, regulation in India is not effective. Regulation is often ill defined and there is a lack freedom within the economy as governmental intervention is common.

In looking at the levels of investor knowledge and the investor base India, again, does not score well. While the level of knowledge is consistent with a growing economy, this area will need to be improved upon. Regarding the investor base, while India has banking, insurance companies, pension funds and mutual funds, some of which have considerable assets relative to the size of the Indian economy, these investors are very small indeed. The primary and secondary markets in India overall have huge scope for



growth. Given the relative size of the Indian economy, the development of a range of credit products at a governmental and at a firm level would help to spur economic growth more broadly.

TABLE 7

The Key Components of Effective and Functioning Credit Markets

Debt and Maturity Profile of Credit Market	India	World
Outstanding Domestic Public Debt to GDP (%)	19.18	31.16
Outstanding Domestic Private Debt to GDP (%)	5.03	28.16
Outstanding International Public Debt to GDP (%)	–	4.95
Outstanding International Private Debt to GDP (%)	–	9.12
Corporate bond issuance volume to GDP (%)	0.92	2.55
Corporate bond average maturity (years)	9.14	7.83

Source: World Bank Global Financial Development Database, 2013

Case study: Indian Corporate Bonds



By increasingly digitising transactions, India's corporate bond market is developing in its sophistication and potential to grow.



Critical structural constraints, including an underdeveloped credit rating industry and a very narrow investor base significantly constrain this market.

The low ratio of outstanding corporate bonds to GDP in India indicates the small size of its corporate bond market. The non-financial corporate sector is highly under-represented in the Indian bond market. Financial institutions, especially banks and non-bank financial institutions, together accounted for 72% of the overall amount of outstanding corporate bonds in 2013 (Asifma, 2013). The Indian corporate sector relies heavily on banks for lending and raising funds to finance new investments. Given this predominance of the banking sector, it is harder for borrowers to restructure their payment schedules, making the bond market an obvious alternative for corporate financing. There is currently a vicious cycle whereby the clear lack of participation in the corporate bond market in India leads to a lack of liquidity and underdeveloped rating mechanisms, which then further constrains the development of the market and the participation of new players. The Indian corporate debt market has, however, undergone some growth in recent years, both in terms of number of issues and amount outstanding, and this has been driven not least by Indian authorities facilitating the development of (nevertheless limited) electronic trading mechanisms.

Several structural constraints to development are present in the market. India's credit markets in general are hampered by a lack of development in the credit rating industry of the country. Investors – especially foreign ones – are often reluctant to participate in the Indian corporate bond market because of mismatches between the price of the bonds and the actual risk they carry. To create a more attractive environment for investments, the credit rating industry must adhere to international best practices. This includes a thorough standardisation of disclosure nomenclatures and rating methodologies. The investor base is extremely narrow and there is little diversification of products, prompting mutual funds, hedge funds and pension provident funds to be constrained in size. Foreign Institutional Investors (FIIs) have limited access to the corporate bond market in India due to the FII quota and this, coupled with offshore rupee-denominated bonds being practically non-existent, constrains the diversification of the investor base. Private placements are the norm in the market, as is the case with Indian government bonds. Nearly all corporate bonds issued in India continue to be placed privately, resulting in the low availability of bonds for trading in the secondary market. Around 87% of total corporate debt issuances in India were privately placed in FY 2011-12 (Asifma, 2013).

4.4

Japan

Japan has a heterogeneous credit market, with very effective market infrastructure in place.

Japan's corporate bond market, whilst liberalised via strong reforms made in the 1990s, remains underdeveloped and is hampered by certain cultural or behavioural factors outlined in the case below.

The scope for growth in the Japanese credit markets is slim, and continuing deflation and illiquidity in the markets are critical risks for Japan.

The Japanese financial sector overall, remains one of the most developed in the world, although Japan scored lower on regulation.

"We've seen a shift in the perspective of Japanese investors. Domestic bonds offer stable albeit low returns to investors. But these yields are under tremendous pressure as a result of Bank of Japan's continued easing and consequent pressure on the yen. As a result an increasing number of investors, particularly insurance and pension funds, are looking to overseas (dollar denominated) debt markets in search of higher yields... and these funds have considerably more leeway over what they can invest in away from their home market. Of course, all of this comes at the cost of a higher exposure to risk and volatility from fluctuations in currencies and offshore rates... but this may be a sign of confidence [rather than desperation] amongst Japanese investors."

Investment Banker, Asia-Pacific

Overview

Japan's economy suffered a notorious stagnant period of economic activity characterised by low growth and persistent deflation after the 1991 asset bubble crash. During this time government debt levels rose to 226% of GDP, the highest in the OECD (OECD, 2015J). The continued stagnation is attributed to Japan falling into the 'liquidity trap' i.e. a situation whereby interest rates are low but no one is willing to purchase illiquid assets. In spite of Japan's economic difficulties, it still ranks third highest in the world for GDP behind China and the USA with \$4.061tr in 2014 (World Bank 2015 data). Japan experienced one of the most severe drops in output during the crisis but practical economic stimulus packages ensured the market remained stable.

Japan is home to a very large and popular financial sector which has seen a reasonable level of development and re-structuring in order to help the economy out of its current situation. Large banks and insurance companies were encouraged to re-structure and reduce non-performing loans. Progress in capital positions has been made. Banking sector assets in Japan are comparable to other top financial centres at EUR 8.3tr, highlighting a very deep financial market.

Non-bank institutions are hugely important, arguably more so than banks, holding assets equivalent to 297% of GDP in 2013. Although substantial reforms were made to Japan's public pensions in 2004, significant challenges to the viability of the system remain. Key elements of the 2004 reforms have yet to be implemented. The private pension system in Japan is evolving and growing, but it remains small compared to the public pension system. Major Japanese securities firms appear adequately capitalised and have strong liquidity buffers compared to their foreign

peers. The largest securities companies have Tier 1 capital ratios of 16–24%. The sector has been hit hard by global market turbulence since 2007 and core profitability has contracted sharply, reducing equity and raising leverage above comparators.

Historically, the Japanese credit market has been dominated by bank debt provisions and purchases of instruments by the Government Pension Investment Fund, the world's largest pension fund. Throughout the 1990s and early 2000s the outstanding amount of bank loans declined in overall market share compared to the corporate bond market, which more than doubled between 1998 and 2005. Deregulation was a vital driver of development in Japan's non-bank credit markets. Among core reforms in 1996, Japan abolished a series of market-hindering issuance standards and procedures.

Japan's corporate bond market still only comprises around 10% of the overall bond market, with Japanese Government Bonds accounting for the largest share. Securitisation has grown as a sub-sector of the Japanese credit markets following the decrease in bank lending after 1998. Mortgage-backed securities products drove significant development in this area, and the revision of the 2003 Government Housing Loan Corporation Law helped to spur this market by making liquidation of housing loans easier and quicker to achieve.

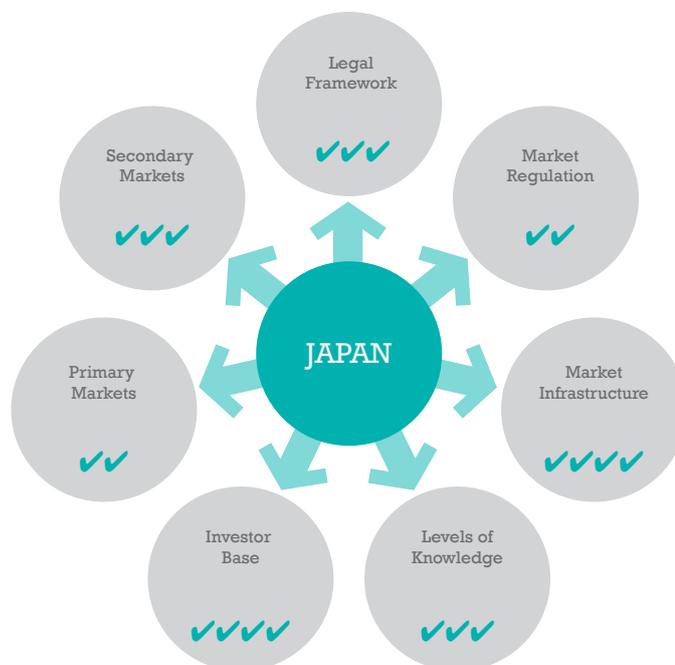
Recently, the credit market in Japan has experienced almost the opposite to what it underwent following the banking crises in the 1990s. Since the 2008 crisis Japanese firms have tended to return to the use of bank loans instead of non-bank credit. The Japanese banking sector has effectively replaced these credit markets as a response to the crisis, to satisfy demand for finance, but has not aided continuing growth in credit markets.

Japan

Credit Markets

As one of the largest financial centres based on market capitalisation, Japan has many of the institutional features to be expected in a mature established credit market. That said, market regulation has a low score and there are questions about whether Japan's credit markets have any real scope to expand substantially. Two key features of the analysis are the legal system and the market infrastructure. The Japanese legal system scores very highly. Moreover, the systems required for developing credit markets, such as public and/or private credit bureaus are present here and have been part of the Japanese system for a long time. With respect to market regulation, the Japanese system does not score highly. While it is not lowly ranked, it does not score as well as other developed markets. This is due to significant interventions in the financial markets from the 1990s onwards. Moreover, the Japanese central bank recently undertook significant interventions in the market via a programme of quantitative easing.

Japan is a bank-orientated economy with a broad investor base with large insurance companies and pension fund, and there is a large mutual fund sector. Japan, however, is



a highly indebted country, with government debt in particular being multiples of GDP. Scope for credit market expansion and growth is minimal.

TABLE 8

The Key Components of Effective and Functioning Credit Markets

Debt and Maturity Profile of Credit Market	Japan	World
Outstanding Domestic Public Debt to GDP (%)	181.23	31.16
Outstanding Domestic Private Debt to GDP (%)	70.75	28.16
Outstanding International Public Debt to GDP (%)	0.06	4.95
Outstanding International Private Debt to GDP (%)	6.70	9.12
Corporate bond issuance volume to GDP (%)	1.30	2.55
Corporate bond average maturity (years)	6.65	7.83

Source: World Bank Global Financial Development Database, 2013

Case study: Japanese Corporate Bonds



The regulation which has historically hindered this market has been almost entirely repealed, making it a good opportunity for internationalisation.



Crucial behavioural constraints hold it back, with most bonds held to maturity: the junk bond market very small, and the issuer base limited.

The usage of corporate bonds in fund management is significantly lower in Japan when contrasted with the USA and Europe. The Japanese corporate bond market remains a small market. Nevertheless, facilitating growth in the corporate bond market in Japan would spur product diversification and the decentralisation of financing methods by private companies. The issuer base is relatively diverse in this market. In addition to non-financial corporations, banks and consumer finance companies can issue corporate bonds in Japan as permitted by the country's Companies Act. The corporate bond market in Japan includes conventional bonds, asset-backed bonds, convertible bonds, samurai bonds and bank debentures.

There are three core behavioural-cultural constraints to growth in Japan's corporate bond market: a bias against non-investment-grade bonds; a limiting of bond issuance to certain sectors; and a tendency among investors to hold-to-maturity. The Japanese credit rating industry is well developed. Generally speaking, however, high-yield bonds are yet to be a key feature of the country's markets because of the, now abolished but nonetheless resonant, strict standards in credit

rating. BB, B, CCC, CC, or C-rated bonds are nearly absent from even the primary market due to Japan's older policy framework, which excluded participants from trading in them. The standards and policies that made this the case have since been abolished, but the primary and secondary markets remain dominated by investment grade bonds.

The issuance of corporate bonds in Japan is generally limited to those in specific sectors. These sectors include, but are not wholly limited to, the automotive industry, chemicals, IT, electronics and telecommunications. In terms of bond holders the main holders are banks (depository institutions) with individual investors and investment trusts, foreign investors are relatively minor players. Most of these domestic investors tend to hold bonds until maturity, thereby limiting secondary market activity. Bond trading volume in the secondary market has risen over the past decade, albeit with a lull in 2008, but this pattern of hold-until-maturity behaviour among domestic investors is another crucial constraint to the development and expansion of the Japanese corporate bond market.

4.5

Mexico

Mexico's solid economic relations with the US, its effective credit market infrastructure and its vital initiation of a broad series of market-developing reforms have driven rapid growth in the country's government bond markets.

Highly internationalised in its banking sector, private and international credit instrument transactions are nevertheless low in volume, and the credit market has ample room for expansion.

Mbonos and other dollar- and peso-denominated government bonds are of increasing interest to international investors.

Levels of knowledge in the country are high given Mexico's stage of economic development, but the Mexican credit markets need to be more diverse in terms of the institutional investor base for growth to continue.

Overview

Mexico is the second largest economy in Latin America with a population of 125m people and a GDP of US\$1.295tr in 2014 (World Bank, 2014M). Mexico experienced moderate growth of 2.4% in 2014, though a lowering of oil income has dampened the economy over three successive years. The total assets of the Mexican financial system are approximately 67% of GDP, of which commercial banks own around 55%. Pension funds are the second largest sub-sector, with 13%.

One of the most notable issues in Mexico is the very high level of bank concentration, which reduces market effectiveness through oligopoly type behaviours and, more importantly, is a serious vulnerability for Mexico. In the Mexican banking system, the largest five banks hold around 82% of total banking assets. Mexico is, however, highly internationalised, with all these banks having some foreign ownership. The country has the second largest insurance sector in Latin America, valued at US\$62.2bn in 2012 amounting to nearly 4% of GDP. This is still small when contrasted with more developed economies, but there is significant scope for expansion in this area. The pension sector in Mexico had US\$152bn of assets under management in 2013, amounting to almost 13% of Mexico's GDP.

With Mexico's real economy becoming more diverse and resilient with stable growth, the country is encountering a strong demand for a wide range of flexible credit products to finance its continuing development needs. There is still a large funding gap when it comes to financing new and vital infrastructure investments, although the Mexican federal authorities have been increasingly successful in accessing this finance through the issuance of dollar and

peso denominated government bonds and notes. In terms of corporate access to credit, Mexico's domestic credit markets are lagging behind those of benchmark comparator countries such as Chile, although this is partly explained by the highly globalised linkages of the Mexican corporate sector, as investors are very often accessing international markets.

The Mexican domestic corporate bond market remains, in need of structural development. The Mexican markets in private domestic and international bonds make up a distinctly smaller share of GDP than in many of Mexico's benchmark comparator countries. However, the Mexican government bond market has undergone significant and steady growth.

One of the main concerns around credit markets expressed by Mexican leaders pertains to the very small number of domestic issuers in the corporate bond and securities markets. A raft of reforms initiated by Mexico has proven the federal government's willingness and eagerness to liberalise credit markets for the purpose of facilitating sustained growth moving forwards. The Mexican authorities have expressed their ambition to enable access to Euroclear for Mexican corporations, which they hope will attract a new wave of international investors to the country's corporate bond market. The government has also significantly reduced costs for issuing bonds, which had remained high for decades, and liquidity constraints have been an increasing focus at the policy level.

Mexico

Credit Markets

Mexico, as a developing market, has a number of interesting features and some of the scoring and analysis around its credit market indicate a market in an interesting stage of development, with capacity to grow in a number of different areas. The legal infrastructure in Mexico does not rank highly. Legal cases do not create legal precedent. Moreover, there is a high level of corruption and a lack of transparency in general around the Mexican legal system. However, the credit market infrastructure in Mexico ranks very highly.

Mexico ranks well in terms of market regulation, and despite the low scores on its legal regime, the quality of its regulation is supportive of effective credit market growth. Mexico has a good level of knowledge within the country. With respect to its investor base however, Mexico does not seem to have the breadth of investor base nor the depth required for effective expansion.

One of the most notable features about corporate bond issuance in Mexico is the maturity of the bonds, which is considerably longer than the average for our sample. However, in investigating this an interesting fact emerges, namely that the vast majority



of corporate bond issuance in Mexico is of investment grade (rated BBB- or above). In looking at data from Bloomberg, in 2012 86% of all issuance was investment grade and only 14% was high yield. The longer maturities of Mexican corporates is, therefore, likely the result of the most credit worthy firms issuing corporate debt. As credit markets in Mexico mature, it is likely that this long maturity will shorten as a greater mix of firms get access to corporate bonds.

TABLE 9

The Key Components of Effective and Functioning Credit Markets

Debt and Maturity Profile of Credit Market	Mexico	World
Outstanding Domestic Public Debt to GDP (%)	24.42	31.16
Outstanding Domestic Private Debt to GDP (%)	16.25	28.16
Outstanding International Public Debt to GDP (%)	4.09	4.95
Outstanding International Private Debt to GDP (%)	6.60	9.12
Corporate bond issuance volume to GDP (%)	2.54	2.55
Corporate bond average maturity (years)	11.21	7.83

Source: World Bank Global Financial Development Database, 2013

Case study: Mbonos



By initiating a comprehensive series of standardisation and legal reforms to support stability, Mexico has built an accessible government bond market.



Unpredictable volatility in local currency markets remains a problem.

There are various forms of Mexican federal government bonds and all – including the Mbonos – are investment grade and highly liquid. Mexico is a significant opportunity area in terms of emerging economy bond issuance, not least because of the liquidity and yields of Mbonos. Mexico has effectively circumnavigated the damaging effects of several core trends that have emerged in similar economies, including lower commodity prices, a slow-down in demand from China, and an increasingly strong US dollar. Mexico's economy is projected to continue growing and at a faster pace in 2016 due to a series of critical structural reforms being implemented currently.⁶

A core reform measure which was implemented in 2005 was designed to make the corporate governance of public firms more transparent and information disclosure in bond markets more standardised and rigorous. This measure has been instrumental in driving the expansion of the Mexican Mbono market. The introduction of a more developed market in government bonds served to create a virtuous cycle in Mexico whereby

the vulnerability of the liquidity position of the government was reduced and this served to boost investor confidence among both local and foreign market participants. This, in turn, facilitated the continuation of the conversion of international debt with short durations into debt with much longer durations in the domestic market, much of which is now held by foreign investors.

More recently, the Mbono market has undergone rapid spurts of growth because of the dip in US borrowing costs. In early 2015, Mexico issued US\$ 2bn worth of globally accessible bonds, making it the first Latin American nation to raise funds via the US markets. Mexico's government bonds have begun to rise in value and a surge of purchases over 2015 has been fed by the yield on the US Treasury 30-year bond reaching a significant low. The yield on dollar-denominated Mexican government bonds with a 30-year maturity became at one point almost double the yield offered by the comparable US government bond. From an investor perspective, this long-dated Mexican credit is offering an alternative through which investors can seek out better yields. Moving forward, this picture is far from certain in its continuation. Rapid oscillations in local currency markets remain a problem for Mexico and the peso, but Mexico's economic growth prospects look strong and investors remain aware of this.

⁶ See: <http://www.ft.com/cms/s/3/6fba32ea-5bc6-11e5-9846-de406ccb37f2.html>

4.6

Nigeria

Nigeria's credit markets have opened up internationally thanks to a series of programmes of market and regulatory reforms.

Federal Government of Nigeria (FGN) bond issuance has grown significantly in the past decade, with the authorities making it increasingly easy for foreign investors to purchase them.

Sectoral over-concentration in banking needs to be addressed, although the investor base in the credit markets is relatively diverse

With historical problems of corruption, bribery, embezzlement and confusion around law and regulation, Nigeria needs to improve its regulatory framework and ensure mechanisms for compliance.

A recent wave of Federal reforms shows much promise in developing the country's credit markets.

"The first big question that needs to be resolved when making credit investments in any country is being comfortable with the legal system – you need to be comfortable with the rule of law. Local knowledge is important and it is crucial to work with domestic legal counsel and banks. In Nigeria for example, when you register assets for security on a floating mortgage, there is a 5% stamp duty – on £100m loan this would result in a £5m tax. Clearly this is prohibitive – so there is a local workaround where only a portion of assets are registered and full registration only occurs where insolvency is looking likely. Knowledge in the market is good – there are many expats returning to Nigeria from all over the World and this means that there is a high level of knowledge in the banks etc. This means things will move fast."

**Regional Analyst at a Globally Active
Asset Management Firm**

Overview

Nigeria has seen reasonable but varied GDP growth rates of, on average, 5.91% in the past five years (World Bank 2015 data). Nigerian authorities have consciously and purposively sought to facilitate growth in Nigeria's credit markets and to widen access and increase depth in them, in order to foster further growth in the real economy and a concomitant rise in demand for a more diverse range of credit instruments.

There has been rapid expansion and integration of the Nigerian financial market internationally, although financial market assets were equal to only 60% of GDP in 2011. The financial market in Nigeria is heavily dependent on bank-based finance with as much as 79% of total assets held by commercial banks and this sector accounting for 36% of all equity market capitalisation. The non-banking sector is under-developed but growing; pensions funds are the second largest sub-sector in the financial system with 12.1% of total financial assets. Insurance companies only hold 2.6% and an amalgamation of all other non-bank financial institutions collectively hold 6.6% of total financial assets. Weak governance and opaque reporting are still a significant issue in Nigeria's financial system. Banks have been shown to have inadequate corporate governance and credit management systems, resulting in unstable portfolios that may turn out to be highly toxic when high growth rates subside.

Until the 1980s, partly due to the Cold War politico-economic dynamic, Nigerian credit markets remained excessively regulated, and the government maintained very intimate relationships with the country's main banks and institutions, with these relationships bogged down in market-hampering corruption and cronyism. The IMF's Structural Adjustment Programme, which was initiated

in 1986, helped to prompt the onset of an array of reforms, legislative/regulatory repeals and a programme of bureaucratic rationalisation measures. Nigerian authorities, through several different governments, have pressed on, albeit in the face of very challenging barriers to credit market development, in pursuing these reforms to date.

Nigeria's credit markets remain overly reliant on bank based finance with government bond issuances comprising an understandable (given Nigeria's position in terms of development) but worryingly high proportion of the total value and volume of the credit market. Nigeria's relatively high levels of corruption and embezzlement are tied up with the recurring issue of chronic poverty. Access and depth in the credit markets are relatively poor and despite expansion in terms of the credit supply-side, a key obstacle on the demand-side is Nigeria's pandemic of poverty.

Nigeria

Credit Markets

Similar to India, Nigeria has a number of different factors that could be hindering the development of its credit markets. There is ample scope for developing better functioning markets. The legal infrastructure in Nigeria does not score highly. Corruption, bribery and a lack of transparency characterise Nigeria's credit markets. There have been substantial changes in Nigeria over the past year and there is a serious and concerted effort to change this situation. The trajectory in terms of the legal infrastructure is one of overall improvement. In looking at the credit market infrastructure and market regulation, these do not score highly. This, in part, results from the lower stage of economic development within the country. It is likely that these factors will improve in the near future, as the past few years have seen a significant improvement in equity market infrastructure and regulation.



In terms of levels of knowledge, Nigeria scores low down on this factor. This is not surprising given the general level of social and economic development in the country. There is no mortgage market to speak of in Nigeria. The investor base is reasonably broad, with banking, insurance, and pension funds present. Overall, both the primary

and secondary markets in Nigeria are small relative to the GDP of the country and there are a number of key areas that can be improved to increase the functionality of Nigeria's credit markets.

TABLE 10

The Key Components of Effective and Functioning Credit Markets

Debt and Maturity Profile of Credit Market	Nigeria	World
Outstanding Domestic Public Debt to GDP (%)	–	31.16
Outstanding Domestic Private Debt to GDP (%)	–	28.16
Outstanding International Public Debt to GDP (%)	0.18	4.95
Outstanding International Private Debt to GDP (%)	0.27	9.12
Corporate bond issuance volume to GDP (%)	0.07	2.55
Corporate bond average maturity (years)	4.35	7.83

Source: World Bank Global Financial Development Database, 2013

Case study: Nigerian Government Bonds



A recent wave of reforms focused on increasing transparency constitutes a potentially very strong driver of further growth in this market.



Interventions by the Central Bank, which restrict the freedoms of internationally active investors are emblematic of typical market-hampering interference.

Government marketable debt in Nigeria has undergone rapid growth of 48% between 2010 and 2013 and is still growing, albeit at a lower rate. Government debt amounted to approximately 8.1% for 2010, 8.4% for 2011, 9.1% for 2012 and 8.6% for 2013 as a proportion of Nigeria's GDP.⁷ The Debt Management Office (DMO) issues Federal Government of Nigeria (FGN) bonds on a regular basis in order to establish the reference rates of debt securities.

The Nigerian Government has made important strides towards creating a more transparent, liquid, stable, and accessible bond market. The secondary market for bonds in Nigeria is limited in its liquidity. Investors can trade government bonds over the counter through primary dealers or market makers.

These institutions are authorised by the Nigerian authorities to deal directly with the Debt Management Office in bond issuances and are involved in the issuance, sale, and marketing of all government bonds.

There is some evidence that investment conditions in Nigeria may have become more challenging for foreign investors over the past 18 months. The Nigerian Central Bank has recently disallowed locals from buying government bonds using foreign currency bought on the open market. JP Morgan's subsequent decision to remove Nigeria from its emerging markets government bond index has triggered heavy outflows from the \$2bn of local bonds the index tracks, as well as a broader stock market sell-off. The removal of Nigeria from Barclays' Emerging Markets Local Currency Government Index, which will come into full effect in 2016, may have similar negative consequences.

Notwithstanding these risks, Nigerian federal regulators and policymakers have initiated a very recent wave of transparency-boosting reforms that seek to directly counter the recurring issue of corruption in the country. Given the rapid and sustained growth in the FGN bond market, these reforms may unlock unprecedented growth in Nigeria's credit markets as a whole.

“Over the past five years, there have been substantial changes to the infrastructure in the stock exchange. There has been a significant drive to improve technology, and the systems and platforms that one would see in Nigeria are comparable to many developed stock markets. There has also been a significant shake-up of personnel. Overall, credit needs to be larger and longer. Not enough and what is there lacks duration.”

Senior Regulator, Nigeria

⁷ See: World Bank at <http://data.worldbank.org/indicator/GC.DOD.TOTL.GD.ZS>

4.7

Norway

Norway has a very productive economy and a highly developed financial system, with the credit market story since 2000 being characterised by a strong push for internationalisation.

Norway's diverse investor base and its high skills/knowledge levels have prompted increasing foreign attention in its junk and covered bond markets.

With petroleum-related sectors accounting for a quarter of output, and the oil industry accounting for a very large segment of the issuer base, Norway's credit market development remains vulnerable to low oil prices.

There is, therefore, scope for increasing the resilience of the Norwegian credit markets and the real economy at large by facilitating international participation on both the supply- and demand-sides.

“When oil accounts for 20% of your GDP, you will feel the effects of a price slump very hard. In Norway, we are likely to see [high-yield] bond defaults amongst service companies first – it is too late for many of them I think – and then it will depend on whether the rest can refinance existing debt early and/or how long the oil price stays low. Entrenched price declines will mean further pressure on the krone and that is bound to make it even harder to access international investment.”

Senior Analyst, Energy Consultancy (Europe)

Overview

Norway's economy is small but highly productive with GDP per capita of around \$97,400, compared to \$54,600 in the United States. Oil exports drive almost a quarter of output, and, until recently, flexible exchange rates, inflation rates and sound fiscal and monetary governance have protected the economy from sudden variations in the international oil market. The oil price slump of around 50% over the past year has, however, begun to impact on the economy and growth is beginning to falter.

Norway's financial system is large in relation to its size and population and it is diverse when compared to other, larger economies. Financial corporations and auxiliaries provide the bulk of assets at NOK388tr and NOK173tr respectively. The banking sector holds a relatively low proportion of assets at around NOK140tr in assets, and insurance and pension funds account for around NOK57tr. The government pension fund of Norway is the largest pension fund in the world worth NOK7tr as of June 2015. There is a well governed regulatory system in place in Norway, which has weathered the global downturn and subsequent external shocks successfully to date. Several large conglomerates dominate the financial market; during prosperous times in the economic cycle these contribute to risk management and diversification but they could be a source of contagion in a period of economic hardship given their systemic importance.

The Norwegian credit markets are highly developed insofar as private non-bank credit instrument issuances are worth around half of public debt outstanding – this indicates that Norway's corporations are active participants in the non-bank credit markets. Companies in the oil/petroleum and shipping industries are

particularly well represented in these markets, accounting for nearly half of the country's corporate bond issuance. There is a growing amount of "small issues" from European and domestic SMEs in this market. Domestic investors currently dominate the investor profile when it comes to Norwegian company issues, partly because of domestic investors' familiarity with the key sectors issuing bonds/placements, but Norway's credit markets are overall highly globalised.

Of particular interest is the Norwegian corporate bond market which contains large issue volumes of high-yield corporate bonds sat under a regulatory infrastructure which facilitates international access. The Nordic high-yield bond market as a whole now constitutes the world's third largest high-yield or "junk" marketplace. Internationalisation is the phrase which best suits the growth of Norway's credit markets in the period 2000-2015 as foreign participation in the corporate bond market has increased significantly.

Norway's credit markets in general, as with its financial sector at large, remain vulnerable to shocks and crises in Norway's main contributor to GDP – oil. When concerns grow that petroleum companies may fail to service their debts, this can result in volatility. If growth in the oil/petroleum industry is too limited for companies to refinance high-yield bonds which mature in 2015-17, this could have consequences for the recent trend of growing international interest in the Norwegian credit market.

Norway

Credit Markets

Norway is the most developed Scandinavian country in terms of its credit markets. Norway scores well across the first four metrics by which we are assessing credit markets. In terms of the legal infrastructure, Nordic countries generally, and Norway specifically, score well in terms of rule of law, and Nordic countries have very low levels of corruption. As a developed market with some very interesting credit market specific characteristics i.e. junk bonds and covered bonds, it is no surprise that Norway scores well. In terms of relevant credit institutions, such as bureaus, there is a well-developed credit infrastructure present. Similarly, there is a high level of market-led regulation with low levels of government interference. Consistent with Norway being a developed economy it has a high level of market knowledge present.



TABLE 11

The Key Components of Effective and Functioning Credit Markets

Debt and Maturity Profile of Credit Market	Norway	World
Outstanding Domestic Public Debt to GDP (%)	20.26	31.16
Outstanding Domestic Private Debt to GDP (%)	34.94	28.16
Outstanding International Public Debt to GDP (%)	-	4.95
Outstanding International Private Debt to GDP (%)	48.62	9.12
Corporate bond issuance volume to GDP (%)	2.58	2.55
Corporate bond average maturity (years)	7.94	7.83

Source: World Bank Global Financial Development Database, 2013

Case study: Covered Bonds



By creating enabling legislation that is easy to understand, the Norwegian authorities have built an innovative covered bond market.



Heavy reliance on the petroleum sector – i.e. a relatively low degree of sectoral resilience and diversity – remains a risk for this market.

Covered bonds are securities created from public sector loans or mortgage loans whereby the security is backed by a separate group ("cover pool") of loans. They are technically different to conventional asset-backed securities because the assets remain on the issuer's consolidated balance sheet and this is nearly always done with a concomitant capital charge. The legislation which facilitated the establishment and growth of Norway's covered bond market was passed in 2007. It came as a result of a lengthy study and reviews sponsored by the government and with strong support by the financial industry. It is a modern and up to date piece of legislation that provides investors strong protection via the cover pool. Only licensed specialised credit institutions are legally permitted to raise funds by issuing covered bonds. There are 22 Norwegian specialised credit institutions currently licensed to do so (Finance Norway, 2015). Norwegian covered bonds are protected by law, and the issuers are subject to a particular supervisory regime involving both an independent inspector and the public supervisor, Finanstilsynet.

Large banks dominate the covered bond issuer base in Norway. The seven largest issuers, which account for over 80% of the covered bonds outstanding in Norway, are all rated by Moody's – six of which achieve a Aaa rating and one a Aa2 rating (NYKredit, 2013). The European Central Bank (ECB) is a key investor. The ECB and national central banks had, as part of the quantitative easing programmes across Northern Europe designed to push up asset prices and spur economic growth, bought just over €98bn of covered bonds as of early July 2015. One of the main fears among some analysts is that a rapid and unplanned ECB/CBs exit from the demand-side could lead to a volatile period of re-pricing, creating risks which could permanently damage the maturity of the market and its reputation for stability.

Another critical vulnerability of the Norwegian covered bond market is the fact that Norway's wealth and economic stability is reliant on revenue from the oil sector. Norway has gradually become one of the wealthiest countries in the world. However, over-reliance on oil revenues constitutes a risk for the economy and for investors in Norway. The investment growth in the sector has been volatile over the past fifteen years, however, petroleum investments in 2014 amounted to over ten times that of the manufacturing sector (Norges Bank, 2015). Unpredictable adverse events in the global oil and gas industries, if they resulted in a significant slump in Norwegian corporate revenues, could damage the wider economy and the assets that comprise the underlying cover pools of this instrument.

4.8

Singapore

Singapore has a finance-intensive economy, and unsurprisingly scores well across all metrics of credit market development.

Institutionally diverse and internationally accessible, Singapore's credit markets are bolstered by good governance and strong infrastructure.

Singaporean Real Estate Investment Trusts (REITs) are beginning to cast their attention abroad; this may prove to be a growth area moving forwards.

In our analysis, some scope for expansion of this market emerged, but overall, Singapore stands as a very well-developed credit market.

“The authorities are committed to opening up the corporate bond market to retail investors. There has been a recent push in terms of regulatory change to make this happen. For example, almost two hundred institutions have (direct or seasoned) access to retail investors and resale bonds can be re-allotted in smaller sizes more appropriate to the retail space. Of course, institutional investors will continue to dominate in Singapore but this is a useful move to broaden retail investment and to reinforce confidence about the depth of Singapore's credit markets amongst issuers.”

**Senior Executive at a Regulatory Agency
in Singapore**

Overview

The financial system in Singapore is one of the strongest in the world with financial assets of \$789.1bn in addition to boasting one of the best institutional environments for business and trading. It was ranked 4th in the world in ZYEN's financial market rankings behind London, New York and Hong Kong.

The financial sector in Singapore is predominantly comprised of bank finance, with 122 commercial banks encompassing \$2tr of assets in 2013. The three most systemically important domestic banks make up about 30% of bank assets, which is equivalent to around 180% of GDP.

Singapore is characterised by a very large international element with foreign banks representing around 65% of all banking assets. The insurance sector comes a distant second comprising 6% of total assets in the financial market, which is approximately 48% of GDP in 2013. The 'assets under management' sub-sector has a healthy market with 600 fund management firms totalling \$880m (250% of GDP); the vast majority of these funds come from outside Singapore (80%). The overruling governing body, the Monetary Authority of Singapore (MAS), has a good level of analytical capacity and operational capability complimented by significant and robust financial data reporting mechanisms.

Singapore is an attractive place to invest in, with a sound business environment, good infrastructure, and has high levels of human capital and an excellent reputation. Singapore is characterised by a deep and liquid financial market that continues to grow. Credit growth has been considerable over the past five years at around 12% on average, and this rate of growth is higher for the three largest banks. The debt and equity markets are truly international, as shown by 40% of listings on the exchange (SGX) being foreign

companies. Daily average trading in September 2015 of \$1.1bn was up 18% year-on-year from 2014.

Singapore has well-functioning and deep credit markets. The corporate bond market has a very diverse investor base, in which 87% of total debt in 2014 was issued abroad, predominantly in US\$. There is a strong and well trusted governance framework headed up by the Monetary Authority of Singapore. Several imminent reforms intended to boost investment, issuance, infrastructure, and intermediaries, look set to position Singapore well in terms of taking advantage of the growing global debt market. The credit markets in Singapore are composed of a large range of products. Corporate bonds and government bonds comprise the largest sectors, with corporate bonds accounting for a significant proportion of the split between the two, which is an indicator of well-developed credit markets. RMB bond purchases have recently undergone a growth rate of 153% over two years, from 2013 to 2015.

Most credit instruments are long-term in Singapore, and the Singaporean government remains aware of this as a constraining feature. The Monetary Authority of Singapore is aiming to introduce new regulatory changes designed to encourage retail investment and diversify the market, chiefly by reducing the legal bureaucracy involved in market participation to attract retail investors to the bond markets.

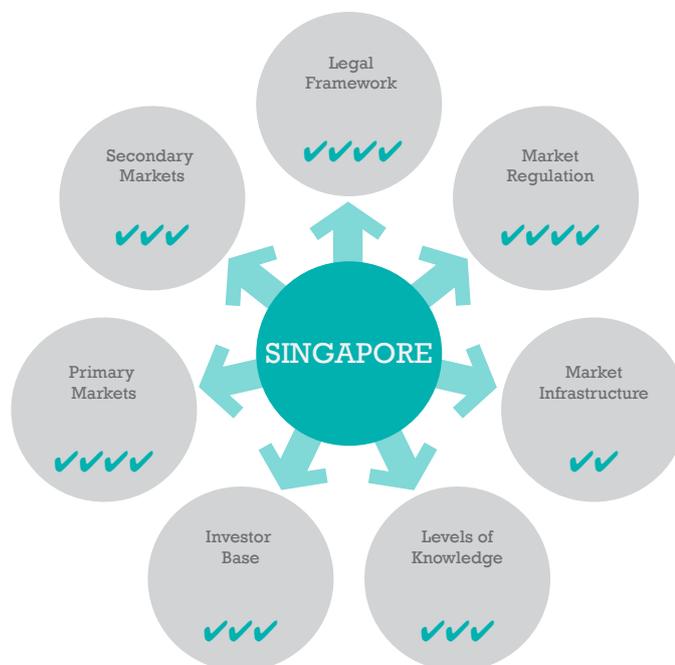
Singapore

Credit Markets

In assessing Singapore, a number of interesting features emerged. First, as a major financial centre, it is not surprising to see Singapore scores well across a range of different metrics. However, Singapore is the only developed market economy where there seems to be some capacity to expand the credit markets.

In looking at the legal infrastructure in Singapore, it ranks very highly. The Singaporean legal system comes out of the English common law system and, as such, places a large emphasis on equity, trust, and property law. That said, Singapore does not rank as highly as other developed markets in terms of credit market infrastructure. While this has not been a major hindrance to credit markets in Singapore, it is one possible area where some further development could be merited. As with other developed markets, Singapore scores highly on both knowledge and the breadth of its investor base. Singapore has a broad investor base with large pools of banking, insurance, pension fund, and mutual fund assets.

Unlike the other developed markets that have been assessed, there seems to be



some capacity for growth in the primary and secondary markets of Singapore. It is also worth noting here that Singapore has two very large sovereign wealth funds, and it is a strategic investor in a range of assets globally. As such, it is not clear where the capacity for credit market expansion is, or if it is desirable or necessary given this.

TABLE 12

The Key Components of Effective and Functioning Credit Markets

Debt and Maturity Profile of Credit Market	Singapore	World
Outstanding Domestic Public Debt to GDP (%)	39.25	31.16
Outstanding Domestic Private Debt to GDP (%)	10.79	28.16
Outstanding International Public Debt to GDP (%)	–	4.95
Outstanding International Private Debt to GDP (%)	24.70	9.12
Corporate bond issuance volume to GDP (%)	3.76	2.55
Corporate bond average maturity (years)	6.07	7.83

Source: World Bank Global Financial Development Database, 2013

Case study: Commercial Mortgage-Backed Securities (CMBS)



By supporting Singaporean REITs in tapping into neighbouring countries' real estate markets, the MAS is actively facilitating growth in CMBS.



This expansion into foreign areas for investment must be maintained because Singaporean REITs are operating in a saturated real estate market.

Conventional asset-backed securities tend to pool assets and issue securities collateralised by those assets. The commercial mortgaged-backed securities (CMBS) market emerged from new activity among Real Estate Investment Trusts (REITs) who, from 2000 onwards, began to back their issuances solely on the proceeds from commercial spaces in key global cities e.g. Shanghai. Asia's REITs market has grown despite the global investment climate whereby highly yield-sensitive REIT investors would be more likely to sell than to buy. New fundraising by REITs in the overall Asia-Pacific region exceeded US\$20 billion in 2013 and reached a historical peak in Singapore specifically. CMBSs are thus a popular instrument in Asia's securitisation market, and in the Singaporean market REITs make up around 19% of the country's underlying institutional-grade real-estate market, the highest percentage in Asia. There were 33 listed REITs with a total market capitalisation of around US\$44 billion at the end of 2014 (Monetary Authority of Singapore, 2014).

Investors in the primary market for high-yield CMBS include hedge funds and insurance companies, with the latter being prominent

in the purchasing of investment grade CMBS packages. Banks and individual investors are also present in the Singaporean market. Each CMBS is cross-sectional and diversified in terms of property and location. CMBS products pool between 75 and 150+ commercial mortgages. The largest mortgages, although few in number, constitute a significant share of the total in terms of value. They are, therefore, attractive international investors because of their position on the yield curve, and because of Singapore's legal robustness, political stability, and well-developed market infrastructure.

One of the problems faced by the Singaporean REITs in 2015 has been that they are increasingly operating in an overcrowded market, considering the geographic limitations to securitisable assets. Singapore is a small city state, despite the high value of its economy and real estate, and a majority of properties suitable for incorporation into a CMBS have already been securitised. Singaporean REITs have, therefore, sought to purchase securitisable assets in the wider Asian region, as well as in Australia. This trend has included these REITs securitising real estate in nearby emerging economies such as Vietnam. These incursions into territories have been largely successful in growing the market and making Singaporean REITs even more attractive for investors. Extensive and detailed knowledge of the Asian real estate sector has helped Singaporean REITs to include very high-yield assets in their new, risk-minimised CMBS assets. The credit quality of these new CMBS investments is expected to remain high in 2016. The market is expected to slow, but the Singaporean CMBS market still shows signs of distinct promise moving ahead.

4.9

United Kingdom

The UK has a globally interconnected, deep, diverse and innovative credit market, with limited potential for significant expansion.

In terms of innovation, including the international retail bond market, Renminbi-denominated bond issuance, and the imminent UK municipal bond market, the UK is likely to maintain its high global standing.

Deleveraging may be required in the UK due to high levels of indebtedness in the government and the economy at large.

The UK authorities and supervisory agencies are engaged in initiating ongoing measures designed to address contractions in liquidity. However, the recent post-crisis growth in securitised instruments is a key concern for some analysts.

“The biggest [UK] challenge coming up is the possibility of Brexit – this is a difficulty for both partners. I strongly feel London is capable of still positioning itself as the core hub for the high-level market intermediary skills, which the CMU, to be successful, will need to readily access. London is a natural cluster of these skills, not least in terms of legal services, accounting and fund management, and the effect of this clustering is that London has something that even a post-Brexit Europe would continue to need.”

**Senior Regulatory Affairs Official
at International Consultancy**

Overview

The UK has one of the largest and most globalised financial systems in the world, with financial services contributing around 12% of the UK's £1.8tr GDP and accounting for 7% of employment nationally. The financial crisis hit the UK's highly interconnected system hard, resulting in large bank bail-outs amounting to £850bn and a protracted economic downturn. The economy is now beginning to rebound, with 2.6% growth in 2014, the fastest growth since 2008. The banking sector is the back-bone of the UK financial industry and has experienced rapid growth in the last four decades from 100% of nominal GDP to over 450%. Internationalisation is one of the defining characteristics of the UK financial sector at large; foreign banks from 56 countries comprise around half of the total banking sector by assets and account for a third of inter-bank lending. Regarding other financial institutions, the pension fund and insurance sectors play a crucial role for investment in the UK. The UK has a thriving insurance industry sector, valued at £1.8tr. In 2011, the insurance sector contributed £25bn to GDP – around a fifth of all value added in the financial sector.

The UK is considered one of the best run and regulated financial systems in the world, however the size and complexity of the market makes it difficult to identify underlying dangers and large international exposures can have destabilising effects. There are a number of issues around the need for regulation to keep pace with a hastily evolving market. For example, rapid innovation in technology and financial instruments has given rise to faster electronic trading and this has the potential to cause increased volatility in the UK financial system.

The UK financial sector faces competing demands, which pull in opposite directions. Primary credit markets are being regulated

much more than before the 2008 crisis resulting in a contraction in lending, while projects perceived as being productive are struggling to secure appropriately priced financing.

Some resilience risks are perceived to be driven by quantitative easing (both domestic and international). It is, as yet, uncertain whether productive investment opportunities have kept pace with the availability of finance and whether asset prices are sustainable. Investors are cautious about securities after the financial crisis and are seeking greater levels of assurance. The Bank of England has deployed a number of policies to bring confidence to the markets. However, it is commonly believed that forward guidance has been ineffective due to atypical macroeconomic trends while macro-prudential measures have yet to be proven in terms of their sustained impact. At the same time, there is a political dimension to the current situation and questions have been asked about growth at the expense of asset security.

The possibility of "Brexit" is a critical issue for the UK at large, and London in particular, when it comes to its market function vis-a-vis the European capital markets. An exit from the EU could potentially position Luxembourg or Paris as the preferred provider of professional intermediary skills (including accounting, legal services etc.) for an integrated European marketplace. That said, London has the strongest links with big markets such as the USA out of all the European financial hubs, and could potentially poise itself as the Capital Market Union "gateway" center. Brexit could come in many negotiated legislative forms, and its impact would vastly depend on the clauses and conditions of the UK's withdrawal, but it remains a critical factor in the coming years.

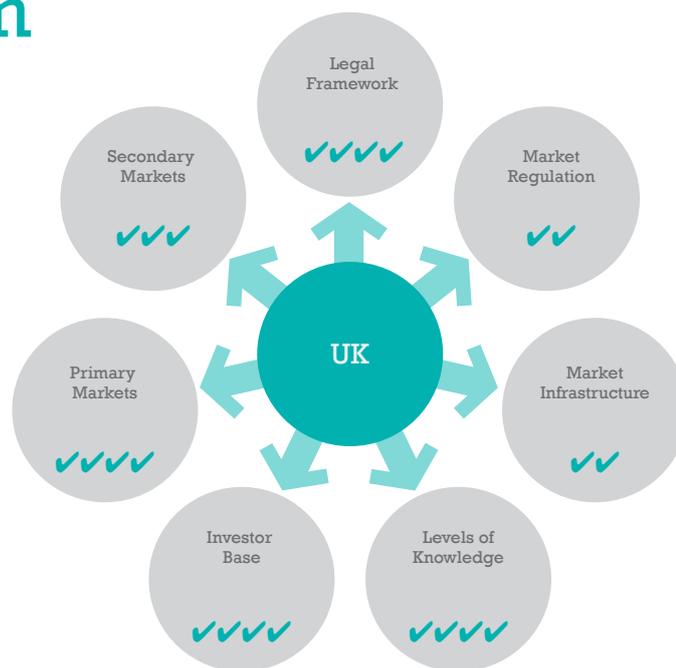
United Kingdom

Credit Markets

In assessing the UK with respect to its credit market infrastructure and its capacity for growth there are two clear trends. With respect to the infrastructure required for a mature, established credit market, the UK scores very well. In terms of the capacity for expansion of these markets, there is little scope for expansion of credit markets.

With respect to legal infrastructure the UK has the highest ranked legal regime across the various metrics. The UK scores highly in terms of the infrastructure required for having a well-functioning and deep credit market; there are long-lived credit bureaus, an array of rating agencies and so on. All of this means that the UK has the types of infrastructure that are required to develop credit markets. Looking at market regulation, the UK does not achieve as high a score. This is because within the scoring of market regulation, one of the criteria is financial freedom. As a result of the banking crisis, and subsequent government intervention in the banking sector, the score for the UK in this respect is lower than would have been the case before the financial crisis in 2008.

It is unsurprising given London's ranking as the leading global financial centre that the UK scores well in terms of knowledge levels and investor base. The UK has a large insurance



sector, a mature pension fund sector with significant pools of assets held in defined benefit pension plans, and a large mutual fund industry. In terms of balance across pools of capital, the UK has a large and diverse investor base.

In the final two categories the UK does not score well. This is because the UK is already an established and mature market, and there are large well-functioning primary and secondary markets. One issue, however, is the amount of indebtedness the UK government currently has and the relative amounts of indebtedness in the economy more generally. Many economists argue that the UK has to deleverage going forward. The UK, however, despite this remains a global centre for credit and it is a major source of innovation in credit market products and risk management.

TABLE 13

The Key Components of Effective and Functioning Credit Markets

Debt and Maturity Profile of Credit Market	UK	World
Outstanding Domestic Public Debt to GDP (%)	56.99	31.16
Outstanding Domestic Private Debt to GDP (%)	13.68	28.16
Outstanding International Public Debt to GDP (%)	0.71	4.95
Outstanding International Private Debt to GDP (%)	111.13	9.12
Corporate bond issuance volume to GDP (%)	3.56	2.55
Corporate bond average maturity (years)	11.70	7.83

Source: World Bank Global Financial Development Database, 2013

Case study: Retail Bonds



By enabling smaller units of tradable bonds to be issued via the London Stock Exchange, the UK retail bond market has widened access for many firms seeking credit and investors.



Limited issuer activity among well-known, larger, “high street” brands is limiting the further development of this market and popular awareness of it.

The UK retail bond market is a relatively new market, which has learnt from the more established Italian model of retail-sized bond issuance present in the Milan stock exchange – Borsa Italiana. The retail market in the UK is in its infancy, but it presents emerging and exciting opportunities domestically and internationally. Interest among UK retail investors has grown year-on-year since the establishment in February 2010 of the London Stock Exchange’s retail trading platform ORB (Order book for Retail Bonds). Retail investors can access alternative investments to fixed-term bank deposits and equities. Retail bonds are an attractive option for smaller, non-institutional investors, as the retail bond market is not overburdened with regulation.

Conventional wholesale corporate bonds have historically been traded in blocks of at least £50,000, but ORB-listed bonds can be traded in lower units – most typically of £1,000 or less. These smaller deal sizes make it possible for private investors to hold bonds as part of a diversified investment portfolio, rather than being forced to invest through a bond fund. The retail bond market also widens access in terms of the issuer base. The smaller issue size makes it feasible for companies without the scale associated with public bond issuance to raise funds. This can be enabling for companies when bank funding is an unattractive option or it is unavailable. New issues from well-known organisations have bolstered popular awareness of the market and its potential.

Nevertheless, new corporate listings via ORB in 2014, which totalled £526m, only included a few issues that were issued by investment-grade-rated, London-listed UK corporates. Household-name issuers have maintained a level of notable reluctance to tap into the retail investor base via an ORB listing, in part because of high listing costs. In addition, although the retail bond market allows firms to set minimum denominations at a retail-friendly level, often around £1,000, the current UK Listings Authority rules require a different prospectus format for low-denomination bonds; this adds to the time and cost of corporations’ annual updates and is a barrier to participation.

4.10

USA

The USA has the most developed corporate bond market in the world, and its credit markets are geared to internationalised flows.

Less reliant on securitisation than Europe, and with a very strong, broad investor base with extensive expertise in professional services, the USA remains very outward-looking.

Following the 2008 crisis the concomitant bail-outs have left the USA heavily indebted.

With commercial paper markets growing, and ABS on the rise, the main developmental priority is to continue innovating in products and processes while seeking to make the credit markets more resilient than before 2008.

“What makes US credit markets so great? Well for corporate bonds...It's watertight... the market is transparent, it's underpinned by due diligence and legal certainty that is music to an investors ears... Of course, all of that comes at a price. Investor protection, disclosure, compliance, all of the documentation, the ratings, SEC registration... None of that comes cheap.”

**Debt Capital Regulatory Compliance Officer
at a US Financial Corporation**

Overview

The United States is characterised by the largest and most technologically advanced free-market economy in the world. With a GDP of \$17.4tr in 2014, it accounts for 16.4% of global GDP. The banking system is an important part of the US economy, however, non-bank financial institutions have grown rapidly to become the dominant force in the US financial sector. 75% of lending in the EU is undertaken by banks whereas this is closer to 50% in the US, with non-bank financial institutions contributing the remaining half. As of June 2015, the US banking sector held assets of \$15.75tr. The market is concentrated in five banks which hold 44% of banking assets.

The non-bank financial sector meanwhile accounts for more than 70% of total financial sector assets. This sector is taking on more direct lending and increased credit risk. The US insurance sector is the largest in the world and its annual revenue exceeds \$1.2tr. The asset management industry is thriving with 55% of the global pension assets under management. Non-bank financial firms tend to disproportionately increase risk in their search for higher yields and given their highly interlinked nature in the US financial system, the US is exposed more than most to potential spill-over effects when this group of companies experience problems. The US financial market is the largest, deepest and most diverse globally, and with this comes both opportunities and vulnerabilities, as seen from the wide-ranging consequences of the sub-prime mortgage crash. Since the financial crisis, however, the US has made significant progress in strengthening regulatory oversight of financial institutions, via the Dodd-Frank reforms that were passed shortly after the financial crisis began.

The US economy continues to suffer from an excessive volume of credit supply compared

to the availability of productive business opportunities, domestic and foreign. The US has a more developed corporate bond market than any other country and is less reliant on securitisation than Europe. Before the financial crisis, the undersupply of domestic investment opportunities was offset by growth in emerging markets. Since the crisis, however, such opportunities have been less prevalent. The government's strategic response to this has two key components. The US has taken some political steps to re-orientate itself on the international stage, although with mixed success. China remains a key trading partner and the relationship between the two countries has the potential to bring mutual benefits. Potential risks include a move away from sovereign bonds towards less secure investments, depending on the political resolution of the sovereign-debt ceiling, and the concomitant risk that state reserve banks are less able to support the mortgage-backed securities market. A key requirement moving forwards will be to learn from the financial crisis and develop more resilient financial instruments, particularly in the secondary markets. The extent to which this is needed is related to the extent to which the US can gain robust traction in foreign markets in an increasingly complex geopolitical environment.

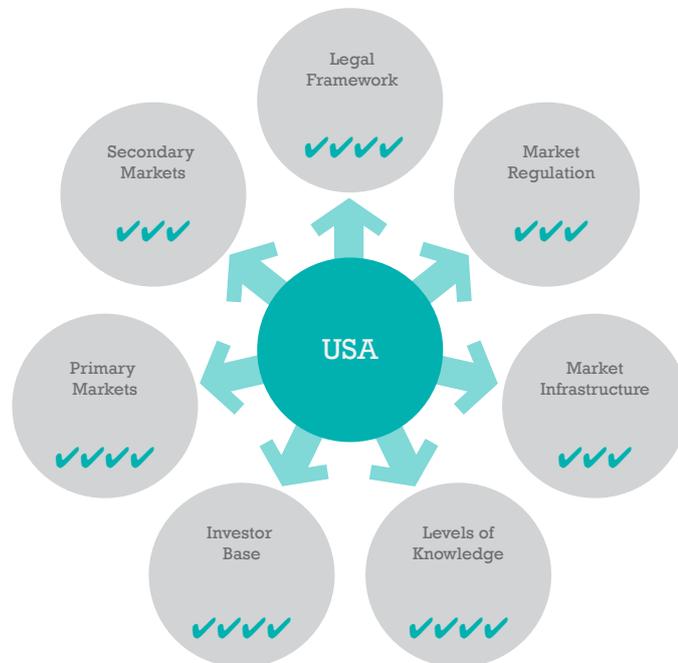
USA

Credit Markets

In assessing the US in terms of its credit market infrastructure and its capacity for growth, two trends emerge, namely that its well developed in the types of infrastructure present that would be expected, but that there is little scope for substantial growth. The US scores highly on soft factors and the infrastructure that is required, but the country finds itself with large levels of debt resulting in part from the financial crisis of 2008 and the bailout of the banking sector.

The legal regime and credit market infrastructure in the US rank very highly. Moreover, the systems required for the facilitation of credit markets are strong with credit registries, rating agencies and so on all being present, and in many instances the US has led the field in these developments. The US does not rank as highly as one would expect in terms of regulation but similar to other developed markets, post-crisis interventions mean that the US scores lower regarding financial freedoms, as there was substantial and explicit government intervention after 2008.

As with other developed markets, the US scores highly on knowledge levels. Moreover, it is no surprise that the US has a broad



investor base with significant assets across banking, insurance, pensions, and the mutual fund industry. That said, the US is also heavily indebted. There are significant amounts of public and private debt. As a market, there is not much scope for credit markets here to grow substantively, and there is a case that some level of deleveraging will occur. However, there is a significant amount of knowledge and expertise here and there is innovation taking place in terms of credit products and risk management processes.

TABLE 14

The Key Components of Effective and Functioning Credit Markets

Debt and Maturity Profile of Credit Market	USA	World
Outstanding Domestic Public Debt to GDP (%)	79.57	31.16
Outstanding Domestic Private Debt to GDP (%)	97.12	28.16
Outstanding International Public Debt to GDP (%)	0.03	4.95
Outstanding International Private Debt to GDP (%)	19.76	9.12
Corporate bond issuance volume to GDP (%)	4.16	2.55
Corporate bond average maturity (years)	10.60	7.83

Source: World Bank Global Financial Development Database, 2013

Case study: Commercial Paper



By exempting commercial paper transactions from the requirement to be registered with the SEC, the US authorities have grown this market.



Boosting transparency and confidence in the market is important.

Commercial paper does not require registration with the Securities and Exchange Commission (SEC), so there are fewer bureaucratic hurdles and it is easy and quick to underwrite, issue, and purchase. Moreover, corporations are becoming the key players in high-yield commercial paper issuance. The instrument tends to be used to cover short- to medium-term internal receivables and to supply funds for financial obligations such as new internal projects. The issuer provides commercial paper on the premise that it is in a position to pay both high levels of interest (vis-à-vis longer-term credit instruments) and the full principal upon maturity.

This short-term credit instrument became highly relevant to the global financial crisis. Following the crisis of 2008, this instrument all but disappeared from the money markets.

The rapid decline in availability drove regulators both national and supranational to set requirements on banks that they must hold liquid assets to cover their credit commitments under the new rules. The outstanding amount of financial commercial paper issued by banks has undergone modest and tentative growth. It remains at 42% below its historical peak of \$850bn in early 2008.⁸

The years 2014 and 2015 have witnessed the re-emergence of non-financial, corporate commercial paper as a preferable type of debt issuance and a viable investment opportunity. The amount of outstanding non-financial commercial paper reached its highest monthly level in a decade – \$243bn – in October 2014, and the market has continued to ebb and flow, but shows signs of significant growth looking forward. US seasonally-adjusted commercial paper outstanding rose by \$68.3 billion to \$1.021 trillion in a single week ending July 8th 2015. This trend has been driven in the main by cheap funding rates, which have caused significant numbers of non-financial corporate issuers to turn away from conventional bank funding and towards the commercial paper markets. In turn, a plethora of individual and institutional investors have been using non-financial commercial paper in lieu of lucrative treasury bills, government agency bonds and repo instruments.

⁸ For Federal Reserve updates see: <http://www.federalreserve.gov/releases/cp/outstanding.htm>

4.11

Vietnam

With a rapidly growing middle class but regulation-hindered credit market development, Vietnam is abundant with both opportunities and challenges.

Held back by state intervention, less sophisticated infrastructure, and a very narrow investor base, Vietnam needs to increase its credit supply to match its impressive GDP growth.

The government bond market has grown significantly, and it must be used to form the infrastructural backbone of Vietnamese credit market development. Foreign activity is limited here, despite state-led efforts to facilitate it.

With an export-heavy, globally interconnected real economy, Vietnam is both ripe for investment but vulnerable to price slumps and global crises.

Overview

The economic structure in Vietnam has moved from a centrally controlled system to a mixed free-market system with impressive speed. Reforms that introduced private agents in both financial and non-financial spheres have driven growth rates of over 7% for over two decades. Despite this, stresses are beginning to show with several corporate areas plagued by poor performance and liquidity problems limiting credit growth. This is a result of various institutional and regulatory factors, a lack of high quality reporting of data, poor investment management, and interference by the government. The financial system has grown over the last ten years, but the growth has been erratic.

The largely state-run banking sector contributes the vast majority of asset growth and accumulation, and owns as much as 92% of financial assets in the market, at around 183% of GDP. As such, the banking sector is large and is characterised by large deposits. This is partly due to high deposit ratios driven by a lack of other savings instruments, a burgeoning middle class, and high levels of economic growth.

Considerable government control and extensive cross-ownership of financial institutions is a severe problem. Regulation and prudent controls are required to ensure that market forces align with those that are beneficial for the economy as a whole, not just certain market actors. The government has announced a comprehensive reform programme designed to address the problems faced by the financial and corporate sectors. More recently, the Government and the State Bank of Vietnam have introduced a new asset management company to handle non-performing loans (NPLs). The reforms are comprehensive, but implementation is uncertain.

Vietnam has the fastest growing consumer middle class in the world, and whilst the economy and its financial sector underwent turbulent periods in terms of growth running up to 2011, Vietnam is ripe for significant expansion of its credit markets to meet surging demand. The country's authorities have, in light of Vietnam's export-intensive economy and its high levels of global trading linkages, shown a real commitment to deepen and increase access to credit markets. Currently, Vietnam's credit markets are characterised by a stark mismatch between its low levels of sophistication, depth, and diversification, and the significant economic progress made in the economy.

The profitability of the Vietnamese banking sector is declining steadily, with average return on assets having fallen from 1.8% in 2007 to only 0.5% in 2012, and this may well prompt banks to raise interest rates. The corporate bond market, therefore, presents an opportunity to meet very high demand for competitive finance products amongst Vietnamese firms. The overall market is clearly lagging behind with non-bank credit accounting for just 8% of financial assets in Vietnam, which is roughly 17% of GDP, making it the least developed by proportion out of the eleven countries outlined here. The development of the corporate bond market depends on further development of the larger government bond market.

Several regulatory and bureaucratic constraints to participation are in place. Only a limited number of officially licensed securities companies are permitted to provide the full range of associated securities services including underwriting, brokerage, advisory services, portfolio management, and trading. Foreign banks can be licensed via government approval as "custodian"

Vietnam

banks for foreign individual and institutional investors in the domestic securities trading centres. Overall, the State Securities Commission (SSC) maintains strict licensing protocols for monitoring and allowing access to foreign participants. Foreign institutional investors are under a legal obligation to establish a joint-venture company with a Vietnamese partner before they are eligible to apply for a license from the SSC to conduct securities trading activities in Vietnam.

Credit Markets

In terms of legal and credit market infrastructure, Vietnam scores well. That said, bribery and corruption are an increasing worry and there is the potential for the legal infrastructure to weaken going forward. Vietnam was close to the boundary between 2 and 3. The credit market infrastructure is well ranked and there exists the types of infrastructure that would support the development of effective credit expansion in the economy. Regarding regulation, however, Vietnam ranks lower down, and this is in largely due to the very interventionist nature of its government.



In looking at levels of knowledge in the economy, this also ranks further down, but is consistent with most emerging economies. Similarly, there is a narrow investor base in Vietnam, with the largest banks being state owned, and with very limited pools of capital across other sources.

TABLE 15

The Key Components of Effective and Functioning Credit Markets

Debt and Maturity Profile of Credit Market	Vietnam	World
Outstanding Domestic Public Debt to GDP (%)	–	31.16
Outstanding Domestic Private Debt to GDP (%)	–	28.16
Outstanding International Public Debt to GDP (%)	1.61	4.95
Outstanding International Private Debt to GDP (%)	0.33	9.12
Corporate bond issuance volume to GDP (%)	0.12	2.55
Corporate bond average maturity (years)	4.57	7.83

Source: World Bank Global Financial Development Database, 2013

Case study: Commercial Paper



By establishing a well-communicated and accessible framework to guide foreign investors, this emerging market is an area of significant opportunity for future investment.



An underdeveloped credit rating industry and the currently interventionist position of the State Bank of Vietnam are potential barriers to development here.

Vietnam's government bond market has grown rapidly in the past ten years and the central government continues to initiate widespread reforms and pass legislation to facilitate a widening of access to the market. The government's first international bond issuance in October 2005 was very successful. Market growth has been facilitated by Vietnam's authorities increasing clarity for investors on the regulatory system. Global rating agencies such as Standard & Poor's, Moody's Investor Service, Fitch Ratings, and Rating and Investment Information have assigned BB- credit ratings for Vietnam. Government bonds include treasury notes, treasury bonds, State Bank of Vietnam bills, central project bonds, investment bonds,

foreign currency bonds, and public bonds.

The biggest purchasers in the market are commercial banks and domestic life insurance companies. A number of government-licensed securities companies and a few market associations also participate in the market. Commercial banks are the biggest government bond investor group. This group includes the Vietcombank Securities Company, the Vietnam Bank for Rural and Agriculture Development, the Industrial and Commercial Bank of Vietnam, and the Bank for Investment and Development of Vietnam. Vietnam's relatively tight controls on foreign investor participation, as outlined above, are a key challenge to the ongoing development and sophistication of this market. This market is also constrained, like other parts of the Vietnamese credit market, by the underdeveloped credit rating industry in the country. Vietnam's first credit rating company, Vietnamnet Credit Ratings Centre, ceased its operations after less than a year of activity in 2005-06. In the past year (2014-15), the Ministry of Finance and the Prime Minister have publicly pledged to ensure that all bonds issued in the Vietnamese markets will be credit rated from 2020 onwards. The introduction of an official legal framework for the establishment of credit rating agencies in the country will serve as a critical driver for the future growth of the Vietnamese financial markets generally.

Key Insights and Policy Recommendations

5

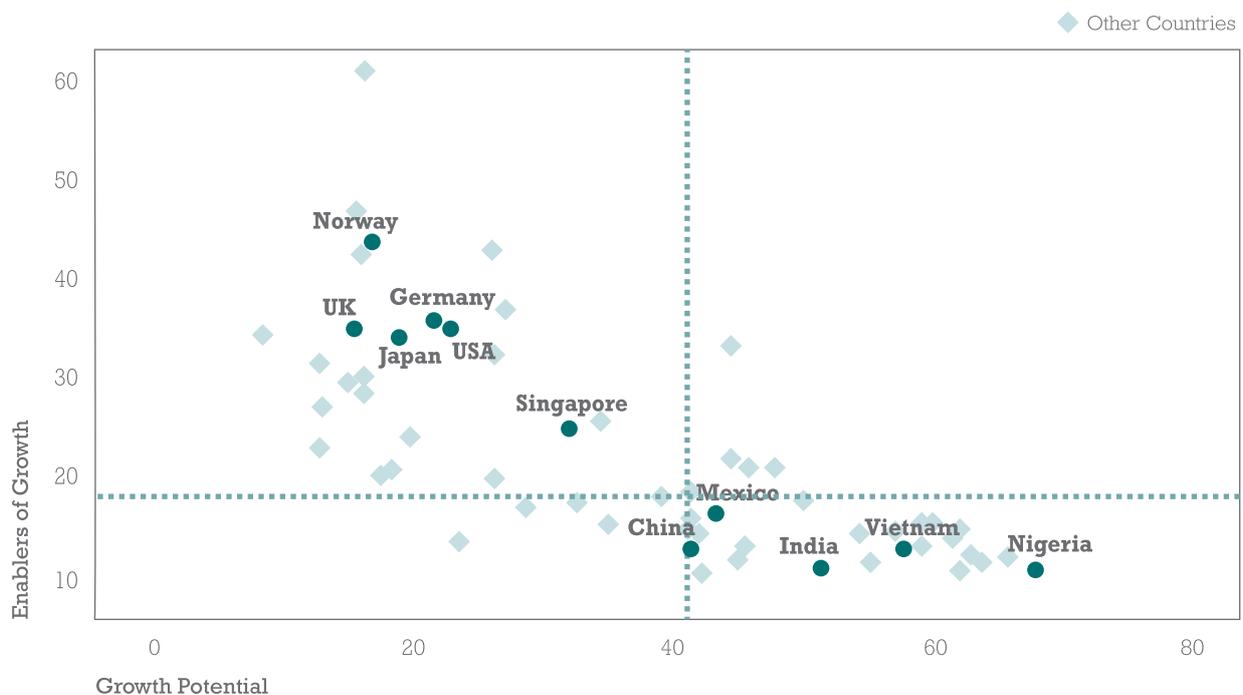
5.1 Framing Credit Market Development: Scope vs Capacity

In this section we will provide a framework to enable clear and consistent messages to emerge from our analysis and discussion around policy reform and change. This framework identifies the potential of credit markets to further their development. In particular, it identifies and explores the relationship between the scope of credit markets to grow (i.e. whether there is further room to expand the use of debt productively within the economy) and their capacity to do so (i.e. whether they have the core competencies to deliver this expansion of access to credit without giving rise to potentially destabilising risks within the financial system and/or the broader economy).

In order to chart this relationship across our sample of fifty-nine countries, including our eleven key markets of interest, we used our original scoring for legal regime, regulation,

infrastructure, knowledge, and investor base to derive a combined measure for capacity and our scores for primary and secondary markets to derive a combined measure for scope for each country. Plotting the relationship between scope and capacity for each of the fifty-nine countries reveals that many countries with capacity to grow have reduced scope to do so – and likewise, many countries with scope to grow, lack a broader capacity to realise that growth. Unsurprisingly, the most advanced credit markets regarding capacity are also the most developed in terms of the size of primary and secondary debt markets relative to GDP. Notwithstanding on-going debates about sustainable levels of debt within particular economies, opportunities for further expansion of these credit markets is necessarily more limited relative to less developed economies. However, the scope to grow less developed credit markets tends to be limited by underdeveloped capacities around legal regimes, infrastructure, regulation, expertise and both the breadth and depth of the investor base.

FIGURE 13
Credit Market Growth – Scope vs Capacity



Note: The CMAF scores legal framework, market regulation, market infrastructure, levels of knowledge and investor base to derive a combined measure for capacity (Enablers of Growth) and scores primary and secondary markets to derive a combined measure for scope (Growth Potential) for each country.

FIGURE 13**Credit Market Growth – Scope vs Capacity**

From Figure 13 we can see that, of the eleven countries of particular interest, the most developed credit markets (Germany, UK, US, Japan, Norway, Singapore) sit in the top left quadrant suggesting the requisite capacity to grow but limited scope to do so. This situation is reversed for the less developed credit markets examined which sit in the bottom right quadrant. To differing degrees, these credit markets (China, Mexico, India, Vietnam and Nigeria) all provide considerable scope for further growth and expansion. However, each country, although to differing degrees, lack some capacity to realise that growth.

While the vast majority of the fifty-nine countries in our sample fall into the two quadrants above (top left and bottom right), there are a limited number that buck this general trend and have the capacity to grow their credit markets but have yet to take advantage of the scope for such expansion. These countries (Slovak Republic, Georgia, Croatia, Estonia and South Africa) appear in the top right of the quadrant. Finally there are a limited number of countries (Jamaica, Greece and Kazakhstan) that appear in the bottom left quadrant in the figure suggesting both a limited capacity to grow credit markets but also a limited scope to grow such markets as a direct result of existing and potentially unsustainable levels of indebtedness relative to the size of the economy and its outputs.

The distribution of credit markets across the quadrants shown in Figure 14 has practical importance in respect of any assessment of their future development. It points to the very different challenges faced by countries in developing their credit markets depending on the particular mix of constraints they face. For example, where scope and capacity are particularly limited (those credit markets in the bottom left quadrant) the priority is to deleverage from unsustainably high levels of debt and to engage in the reform, if not the entire rebuilding, of systemic capacities to deploy credit productively within the

economy. However, where a different relationship between scope and capacity prevails, the particular challenges are different as are the policies and priorities that seek to address them.

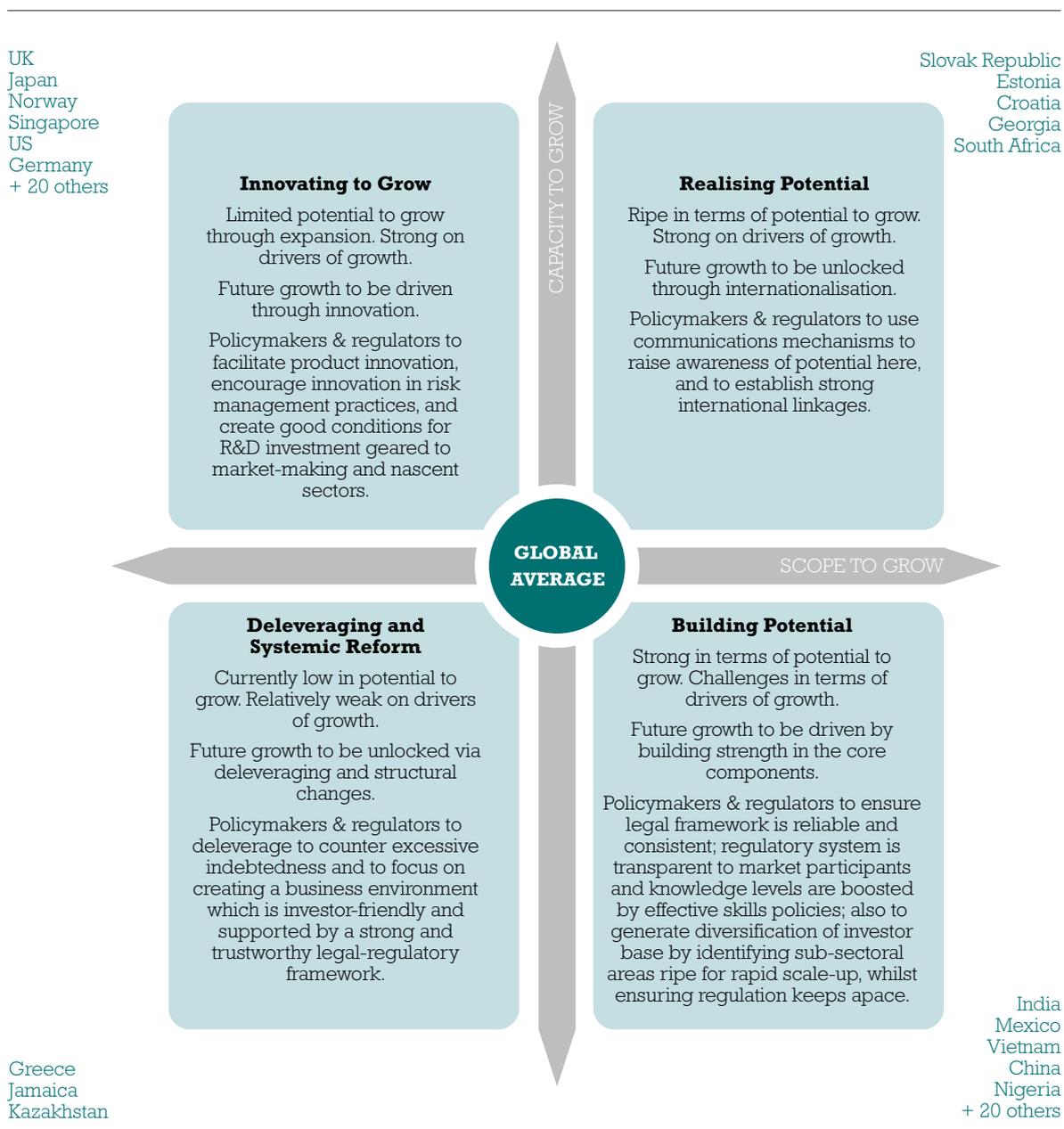
5.2 Policy Implications

Figure 14 provides a stylised version of these challenges and the policy implications that follow from them in respect of future credit market development. It identifies the areas of priority for policymakers seeking to address the challenges presented by scope and/or capacity constraints in credit markets and identifies a number of specific markets where such priorities might be relevant given their location in the distribution of credit markets in Figure 13.

FIGURE 14 OVERLEAF**Scope vs Capacity to Grow Credit Markets:
Policy Implications**

Each of the quadrants overleaf represents a distinct policy priority stage in fostering effective credit market development. A journey of credit market development through effective policy prioritisation takes place over a long period and while subject to idiosyncrasies of culture, geography, technology, and geo-politics, it can be seen to follow a broadly iterative process of policy evolution in the face of the evolving needs and priorities of economies and societies.

FIGURE 14
Scope vs Capacity to Grow Credit Markets: Policy Implications



As stylised in Figure 15 below, it is possible to identify a number of distinct policy phases involved in the evolution of credit markets from one phase of development to another.

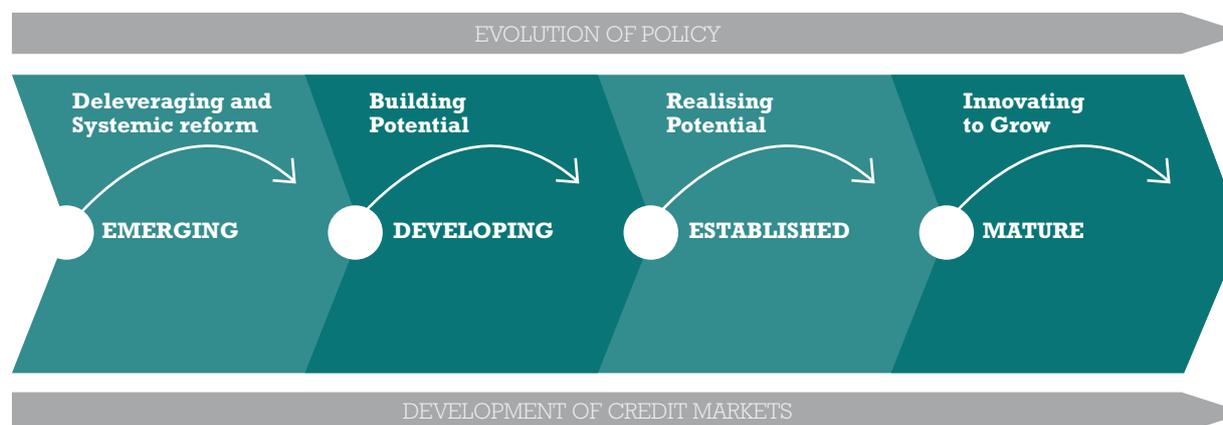
FIGURE 15
Policy Evolution and Credit Market Development

Policy stage 1:
Deleveraging & systemic reform

Countries engaged in deleveraging and systemic reform (such as Greece) must initiate macro-structural market-developing policies. These build a solid and trusted legal framework to support the credit market. This means constitutionally securing full judicial independence and integrity, establishing and enforcing property rights, making the law on ownership clear and consistent, enforcing this legal code rigorously, maintaining political stability, creating fair bankruptcy procedures and assuring that they are complied with universally; as well as establishing the effective regulation, monitoring, and enforcement of finance markets in general. By undertaking this systemic, programmatic reform, countries in this group build the macro-conditions for shifting into the realising potential group.

Policy stage 2:
Building potential
Countries oriented to building potential (including India, Nigeria, Mexico, Vietnam and China) have secured a significant degree of politico-legal solidity and reliability. Policymakers must initiate more broad-ranging market-enabling policies. These diversify and balance out the focus of the policy mix, which now includes minor changes to the legislature and regulatory agencies to make the system continuously dynamic and market-sensitive, but also the following: the improvement of the overall skills profile in the domestic labour market to build higher levels of knowledge in the credit market; the establishment of strong mechanisms of credit information transfer – such as registries and bureaus – which can make credit ratings and information accessible and broad-reaching as well as ensuring timely and cost effective insolvency procedures; and finally the facilitation of accelerated growth in specific non-bank financial sectors to diversify the institutional investor base. It is important for policymakers and senior regulators to draw lessons from more developed credit markets here, because by fostering knowledge exchange via diplomatic routes, countries can emulate and accelerate the development of best practice.

FIGURE 15
Policy Evolution and Credit Market Development



“International money is transient. If things start to look bad then they divest and the money moves, so it is incumbent on the sovereign to manage the macroeconomic side – this is a challenge in Nigeria given that the economy is so reliant on oil. Lending is extending out 3-5 years but was previously extending out to 7 years. This retraction in duration is in part due to the fragility in the economy resulting from the falling oil price. One key thing that happened was the intervention of the regulator to stabilize the bank sector. They bought out all of the bad debts and this has helped with the quality of domestic banks and has attracted quality international players.”

Senior Executive (Asset Management) Southern Africa

“We’ve seen [in Mexico] the successful development of mortgage REITs and the issuance of limited voting shares by large family-run enterprises. This sort of thing would have been unthinkable a few years ago... but the regulators are perhaps still too cautious and not quite up to speed with this new environment. What happened in the mid-90s (peso crisis) cast a long shadow.”

Private Broker operating in Mexico

“The authorities [in China] must get to grips with the supervisory and regulatory framework for financial markets moving forward. There is a sense that the PBOC on the one hand and the different supervisory authorities such as CSRC, CBRC and CIRC lack effective coordination of their activities. There is some suggestion that the different functions represented by these institutions should be amalgamated into a super-regulator or supervisor. This would certainly provide clarity, although I’m not sure, even then, that it would mean supervisors and regulators were truly independent of their political masters and properly resourced to do their job.”

Senior Executive, Hong Kong SAR

“Nigeria would be happy to import ‘best practice’ from London and elsewhere and it is something of an open door to push on to bring innovation and development. There is something here analogous with mobile phone technology – in Africa landlines almost never existed – phones started out at mobile and it is that type of technological leap that could be achieved in Nigeria.”

Senior Regulator in Nigeria

Policy stage 3:

Realising potential

Countries oriented to realising potential (such as South Africa) have established the primary conditions for the growth of effective and functioning credit markets. Here, making the shift to entering the final policy phase – innovating to grow – becomes a more complex, less easily prescribed leap in terms of defining policy priorities. Countries in this group must, necessarily, continue to strengthen their core capabilities. But they must also prioritise their international stance and focus on the linkages they want to build to drive an agglomeration process in moving forwards. These market-harnessing policies place the strategic emphasis on the positioning of the country's credit market vis-à-vis the global financial market as a whole. Exogenous economic factors including financial crises and adverse political events abroad become more important here to the point where there may be active resistance to internationalisation of financial markets. With the core components of a functioning credit market in place, these countries, to engender an agglomeration effect, need to make strategically pragmatic decisions, in the right place and at the right time. The range of variables for policymakers to consider in making the transition to being an innovation-focused, mature credit market is vast and unpredictable.

Final policy stage: innovating to grow

“We have seen unprecedented disintermediation in debt capital markets across Asia since 2008. This has been driven by international investors in search of yield and has led to the massive expansion of corporate debt issuance. The downside to this of course is that if yields are higher elsewhere then capital moves to those places. As we can see right now, Asian corporate debt is particularly susceptible to this sort of international capital outflow.”

**Senior Policy Advisor in a
Regional Economic Integration
Organisation**

“Residual protectionism is a big risk – in Poland the government has recently disallowed the state pension fund from investing in any non-polish bonds. This symbolises a quite common fear that internationalising credit markets smaller, less developed countries may cede real opportunities to the financial giants in Europe – the likes of London, Luxembourg etc.”

**International Regulatory Affairs
Consultant**

Amongst those countries that are oriented to innovation as a primary driver of credit market growth (which includes the UK, the USA and Singapore) policy changes again. With high levels of stability and strength in the core competencies of the market, and having made the developmental leap to being a mature, deep, and diverse credit market, policymakers in this group now focus on market-consolidating policies. This means focusing on the initiation of policy measures explicitly designed to facilitate innovation in the marketplace. The macro-environment of the credit market is highly developed, yet the scope for growth-by-expansion is limited. The policy priority, therefore, shifts to creating space and opportunity for new credit products, new intermediary processes, and new risk management practices to be commercialised as quickly and as effectively as possible.

“ ‘FinTech’ [financial technology] offers a very exciting set of opportunities for the UK financial sector. In particular, it offers the possibility of all sorts of disruptive technologies entering the financial space. Much of the hype around this has been consumer driven – around payday loans, P2P lending and the like – but the really big opportunities are those that provide for greater efficiencies and transparency in financial markets themselves. It is a huge challenge....big firms are teetering and not committing entirely; but there's no doubt the more we [government

policymakers] can do to help facilitate the raw infrastructure – technology, regulation, expertise – for fast-fire innovation in the FinTech sector, the more we [Britain] can take a global lead in this area. At least on this, government and regulators (through the UK Financial Conduct Authority) are pointing in the same direction.”

Senior Policymaker in UK Central Government

5.3

Innovation is key to the future success of mature credit markets

Whatever the appropriate size of credit markets relative to their economies, mature credit markets have, by definition, less potential to grow in absolute terms than less developed credit markets. A number of interviewees suggested that the most mature credit markets will face limits to their potential to grow on an existing footing, particularly as the credit cycle downturns in the US and in emerging markets. While there may be continued moves to grow credit activity in Europe, the likely pace of recovery is far from certain. In these circumstances, interviewees suggested that innovation will be key to the continued strength of the most mature credit markets.

Case Studies on Credit Market Innovation

Innovation 1: Green Bonds

The world's fast-growing cities and developing countries face an increasing challenge from climate change – they need to fund the roads, airports, buildings, water systems and energy supplies that can stand up to rising global temperatures and extreme weather patterns. The green bond market has emerged as a market based solution serving to enhance access to this type of funding, concomitantly expanding the investor base for climate-friendly products worldwide. Most are fixed income, liquid financial instruments that are structurally simple, the funds which green bonds raise are dedicated to climate-mitigation and adaption projects, as well as carbon/GHG emission reduction, ecological conservation and other environmentally beneficial activities.

Funds managing more than \$4 trillion worth of assets now incorporate environmental and social values into their mandates, and the green bond market is, as a consequence, increasingly popular. The green bond market tripled in size between 2013 and 2014, with US\$37 billion issued in 2014. This trend is likely to have repeated in 2015, with a predicted end-of-year total issuance value of \$100bn. Historically, supra-national entities such as the European Investment Bank and the World Bank, along with advanced economy governments, have been the biggest issuers of green bonds, accounting for all green issues between 2007 and 2012. However, there has since been a sharp rise in the number of corporate green bonds issued. In 2014, bonds issued by corporations in the energy and utilities, consumer goods, and real estate sectors accounted for one third of the market. Substantial further growth is predicted in this corporate green bond market.

One of the drivers behind the growth in this market is the need to finance the transition to a low-carbon economy. The

Intergovernmental Panel on Climate Change has estimated that in order to realise the global government commitment to limit global warming to within 2 degrees centigrade above pre-industrial levels, an additional \$147 billion per year is needed to fund the development of low-carbon energies and \$336 billion per year is needed to finance significant developments in energy efficiency. Green bonds are seen as an efficient way of mobilising the capital for these types of projects. The institutional investment market is considered to be one of the key sources for this financing. For investors, green bonds offer an opportunity to engage in long-term sustainability initiatives – these can help investors target portfolio objectives including those stipulated in corporate social responsibility mandates.

Non-standardised methods of assessment and accreditation are a key problem in the infrastructure of this market. There are several evolving sources of guidance on green bonds, all of which have a different purpose and approach. These include the Green Bond Principles (GBP), the Climate Bonds Standard, and green bond indices and sector-specific standards. These are all currently voluntary, and in some cases, lacking in sufficient detail, leading to little consensus on the criteria for being a green bond. The GBP sets out a relatively high degree of clarity on issuing and labelling a green bond; its rules are developed via consultation of a large group of issuers, investors and intermediaries in the market. The International Capital Market Association serves as the GBP Secretariat, providing advisory and administrative support for the governance of the Green Bond Principles and other issues. The Climate Bonds Standard is designed and administered by the Climate Bonds Initiative, and it sets out a formalised standard that issuers can have their green bond certified to when they are labelling their project or product. The standards define what is considered 'green' and the technology specifications for certain types of climate-related projects. Currently these standards are available only for wind and solar energy generation projects. Standards for green buildings, transport,

biomass, water and agriculture/forestry projects are under development.

A growing number of green bond indices have been developed by investment banks and credit rating agencies, including Standard and Poor's and Barclays – these are designed to help investors benchmark green bond performance. Inclusion on a green bond index can improve issuers' reputation, credibility and it can boost their visibility to investors. Discrepancy in methodology and the absence of an operationalised standard among assessors remains a barrier to market growth, because these are perceived as deficiencies in the knowledge infrastructure of the market and investors are often disincentivised by the confusion this causes.

Green bonds may not offer precisely the same prices and returns as conventional bonds. Investors are currently paying a premium to acquire green bonds; this is certainly the case in the secondary market. Emerging research has identified that the added cost of green bonds has been increasing steadily over time, in tandem with an influx of interest from investors. This could pose problems for the green bond market – while the financial benefits of green bonds over conventional bonds are unclear and green returns have historically been in line with them, this potential barrier to secondary market expansion may simply be due to strong investor interest leading to a supply/demand imbalance that has been pushing prices higher. It may, however, be attributable to "opportunistic pricing" based on rapidly growing demand and the increasingly fashionable "image" of green bonds.

“There are two key issues that need to be addressed if green bonds are going to take off as a sustainable investment class. First, what makes something green? Here, we need a generally accepted mechanism by which investors can make that judgement in a rational way... Maybe something akin to a ratings agency that can give a clear assessment of compliance with pre-designated environmental investment standards... Second,

and related to this, is the need to have a way that the outcomes of 'green' investments can be measured in a like-for-like way.'

Head of Green Investment Portfolio at International Asset Management Company

"I think we will see a drive to expand green bond issuance in Asia. I think this will be of some interest to domestic insurance and pension funds looking for long-term, stable investments. However, unless there is some regulatory or policy requirement for green investment, or some price advantage, then real transformative interest will be driven by international investors specifically mandated to make these sorts of investment and looking for opportunities to diversify their portfolios."

Senior Analyst (Emerging Markets) at UK-based Non-Financial Corporation

Innovation 2:

Peer-to-Peer Business Lending

The provision of alternative sources of finance to small and innovative businesses is emerging in part through the rise of digital platforms, offering peer-to-peer lending (consumer finance), peer-to-business lending, and equity crowdfunding (equity financing for businesses). The peer-to-business lending market constitutes debt-based transactions, which take place via online platforms between individuals, an increasing number of institutions, and existing businesses, mostly small- and medium-sized enterprises, with several lenders contributing to any one loan to a borrower. These platforms act as "matchmakers", matching borrowers with willing investors. Via peer-to-business platforms organisations and businesses can raise money to finance investments, projects and ventures, or to re-finance their current activities. Some of this sector's activity is unregulated, some is regulated, and some is exempt from regulation.

The market has grown rapidly over the past ten years. In 2014, for the first time, business loans (£749m) accounted for a greater proportion of the market than loans raised on consumer-lending platforms (£547m). Relatively unheard of in 2005, the peer-to-peer lending market accounted for the funding of £500 million of loans in the UK by 2012, and both the peer-to-peer and peer-to-business industries are still very much in their infancy. However, both markets are experiencing considerable and rapid growth. The market is most developed in the USA, with the largest platform, Lending Club, having facilitated the funding of a total of \$4,034,212,750 loans by 2012. The financial crisis has led to constraints on lending to the real economy by traditional credit providers, and this is a significant driver of growth in the peer-to-peer markets.

Peer-to-business lending offers several potential benefits to borrowers and lenders. First, peer-to-business loans can serve credit needs in markets where financial institutions would not traditionally lend. This means that small businesses, which might not otherwise have access to capital, are able

to finance new projects and investments, manage working capital, or access credit quickly where necessary. Second, there is far more innovation in credit modelling and underwriting in the peer-to-business lending market than in traditional bank lending markets. The platforms can incorporate a wide range of data elements and rating methodologies to widen the market participant base and go beyond the conventional metrics and methods used in traditional credit markets. Online funding platforms are, therefore, beginning to strengthen their credibility among a growing number of investors. This has been apparent through the emergence of associations that represent UK crowdfunding and peer finance. From the perspective of investors, peer-to-business lending not only offers extremely competitive returns, but allows investors to manage their own risk and diversify their investment portfolio across a variety of loans, which offer different levels of risk and return.

“P2P is growing and issuers are looking for new sources of funding, however, the target audience is retail and not all of the retail investors in this space are aware of the risks they are taking on. These are high yield investments for a reason and they are pretty illiquid. P2P is important for funding business and is another bit of the mix of credit investments out there. The big issue is scalability. Unlikely to replace other major sources of credit as it is retail and the capital pool is limited.”

Head of Fixed Income at Major International Exchange

5.4

Europe: The Capital Markets Union

Amongst the most significant governance reforms globally is the Capital Markets Union (CMU) programme of the European Union. This will have profound consequences for the operation of credit markets both in Europe and around the world. The European Commission has made clear its ambition to build a single market for capital across the 28 EU member states. The CMU is designed to directly counter investment gaps by increasing and diversifying the funding sources available to Europe's businesses and long-term projects. By eliminating cross-border barriers to capital flows, including legal-regulatory barriers, border tariffs, and educational barriers, the CMU is intended to unlock formerly inaccessible foreign credit and equity markets to the full gambit of businesses in Europe, as well as placing strategic focus on increasing high-growth SME access to finance and facilitating the cross-border financing of infrastructure projects, which are key to Europe's on-going growth and success.

An integrated pan-European capital market therefore presents significant opportunities for credit market expansion and innovation; it also brings with it acute challenges, and brings to the fore both political constraints to effective economic integration and pragmatic concerns about implementing such a programme of 'pan-Europeanisation' in respect of both debt and equity financing. The general consensus among many market participants across Europe is that to the extent that the CMU will help drive the sectoral diversification of European credit away from heavy dependence on bank debt, the unified system will be a good thing vis-à-vis stability. By making Europe less dependent on bank finance, it is expected that this will give European business competitive advantages, as finance will be more competitively priced and there will be access to a better mix of financing options. There is also a firm belief among policy makers and policy analysts that by enabling an efficient supply of the broad range of expert services to the market, which

are present across Europe, the aggregate levels of knowledge and sophistication in credit markets will be boosted. As Europe enters a phase of 'innovation-led growth', with innovation becoming the main spur of development in what are, for the most part, economically advanced nations, the creation of a European skills network could be a distinct advantage.

Barriers to CMU implementation

A set of important and interrelated barriers to implementation and impact for CMU orientate around the volume of legal, cultural, and linguistic diversity that is a feature of Europe. Abstract legal codes and norms around trust, property, regulation, and state intervention become tangible constraints to an effective process of integration when they stand, as is the case with Europe, in such stark contrast across different countries. Investors both inside and outside of Europe are, therefore, waiting to see if CMU can deal with the plethora of regulatory inefficiencies, as well as the variability in the judiciary and bankruptcy laws, which are features of many less developed European countries. These issues of legal incompatibility trickle into tax codes and systems, with many proponents of integration nevertheless acknowledging that the inconsistency in taxation at issuer and investor sides could pose a critical barrier to the effective use of CMU as a mechanism for driving growth and innovation.

The non-standardisation of language in the written materials of credit markets across Europe is another, similar, barrier to CMU. Disclosure nomenclatures, bond prospectuses, exchange registration documents, corporate contracts, risk management systems, and documentation in many other parts of lending and borrowing would all need standardisation, and failing to standardise the language used could be detrimental for credit markets.

CMU: Key Opportunities

That said, CMU presents opportunities when it comes to the structural development of recent product innovations that are emerging in Europe and elsewhere. In the case of green bonds, by standardising definitions pertaining to green investments

and green impacts across a range of countries, CMU could be instrumental and take the lead when it comes to surmounting this barrier to growth in the market. The peer-to-peer lending market, as well as its equity counterpart the crowdfunding market, may be opened up to growth-driving international access through CMU.

For the SME sector, CMU will improve the quantity and quality of credit information on high-growth firms making it easier for investors to make an investment decision. This will in part be driven through the development of a minimum pan-European set of standards for credit reporting and assessment. This development is vital in enabling companies in one EU country to access and evaluate the creditworthiness of SMEs in another member state.

The ever-increasing domestic private placement markets within many of the EU member states – not least the *schuldschein* market in Germany highlighted in Chapter 4 – have been put forward as a key area of potential opportunity. The International Capital Market Association is heading up a working group, alongside other Europe-focused market associations and a host of institutional investor representatives, investigating the feasibility and desirability of pan-European integration of this particular market. The CMU action plan highlights that the European Commission acknowledges that there are critical barriers to effective integration of these largely domestic markets; the plan recognises that European companies have been increasingly interested in private placements as a preferable source of credit finance; it also highlights that many of these companies have sought private placement transactions in the USA – and it indicates that a more efficient and functioning European market, if achievable through market integration, would boost Europe's competitive advantage against the substantially larger US market.

Despite ample investor calls to initiate policies designed to grow this market, and notwithstanding the important and on-going consultation being undertaken to this end, the private placement market is by its nature

problematic for the pro-integration agenda. The legal, cultural and linguistic barriers to integration which pertain to all the credit markets in Europe are particularly acute in the case of private placements, and are exacerbated by the fact of nearly all of the private placement markets being heavily localised. These individual markets have a nexus of local knowledge at the supply- and demand-sides. Not only, therefore, are there the issues of incompatible tax codes, legislative discrepancies, regulatory and judicial inefficiencies and so on, but these markets are intimately entwined with contextual knowledge of who is issuing the placements, the markets these issuers operate in currently, and with a forward looking view to the markets prospects, and crucially, how the transaction process can be undertaken and made legally compliant most efficiently.

“Fragmentation is the main challenge – the European capital markets are very fragmented and disparate in terms of cultural and educational factors – when it comes to tax, for example, the effect of discrepancies in taxation requirements for bond investors is a frequently expressed concern. In terms of legal matters, again, bankruptcy systems offering little clarity and with little confidence invested in them can pose a huge barrier to the participation of foreign investors. Something as simple as prospectuses being in foreign languages and requiring translation can present huge challenges.”

Head of Global Regulatory Affairs at UK Corporation

“There is ample room for the CMU being instrumental in facilitating product innovation – green bonds and infrastructure bonds are of particular interest – and these markets could certainly benefit from European integration because the process would make these fledgling markets open up to the full range of skills and investment sources in Europe.”

Head of Global Regulatory Affairs at UK Corporation

5.5 Liquidity

Concerns about the liquidity of global credit markets, and in particular corporate bond markets, have grown considerably since mid-2015. There is a good deal of dispute between regulators and market actors, which was reflected in our own discussions with key actors, about whether reduced liquidity is as acute as some have suggested. For those who do believe liquidity has reduced significantly, it is a situation (if not created by then exacerbated by) regulatory demands for banks to hold increased capital buffers and to refrain from extensive market making activities and/or proprietary trading. For those that dispute the idea that liquidity has reduced significantly, this amounts to special pleading – by (especially) US banks – and that in reality, these new demands and restrictions on banks better reflect the true costs of liquidity. This, it is suggested, corrects a problem that was made plain during the global financial crisis – that liquidity had been under-priced in the years leading up to the crisis through under-regulation, government emergency liquidity facilities, and ultimately tax payer bailouts. Moreover, as a number of interviewees observed, recent suggestions that any reduction of liquidity in credit markets might be offset, at least in part, through technological change, tends to ignore the essentially illiquid nature of most debt securities which tend to be held long-term if not – as is most often the case – to maturity.

“There is a general sense that bonds should trade like equities and that type of immediacy is good. However, bonds trade differently, liquidity concentrates in particular assets, and there is a lack of fungibility in bonds.”

Head of Fixed Income at Major International Exchange

5.6
Credit Cycles

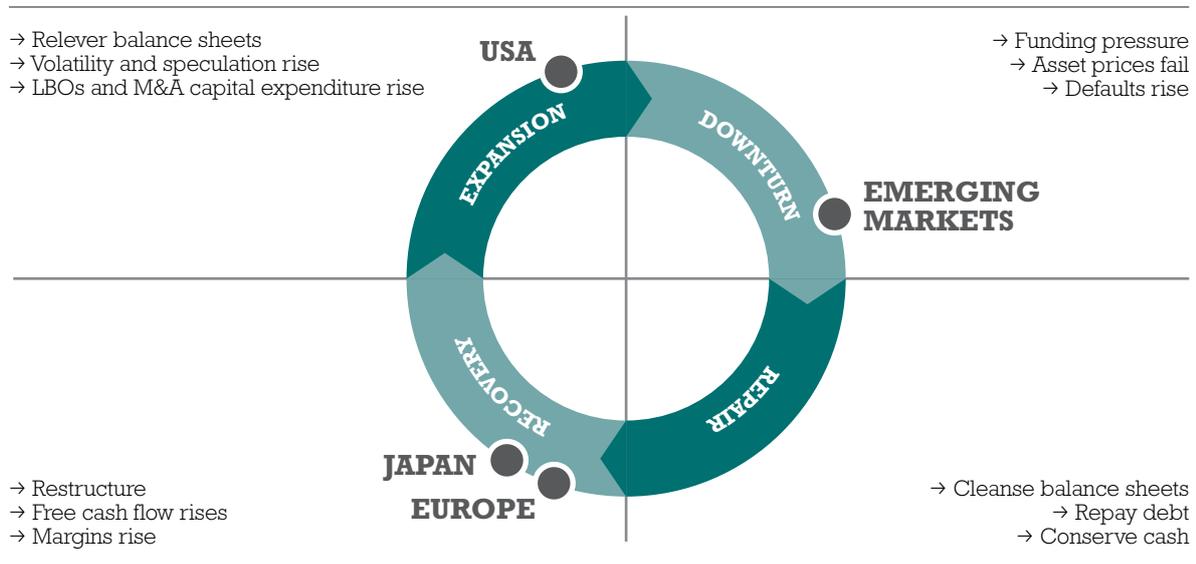
It is largely accepted – by market actors, regulators, and within the theoretical and empirical literatures – that credit is cyclical and expands only to inevitably contract at some point in the future. Where expert opinion differs is on what do about the inevitability of this cycle. Key to this is how counter-cyclical interventions by regulatory authorities are seen to be more or less effective, depending on one's point of view, in mitigating the effects of distortions caused by the over-rapid expansion or contraction of credit. In the US, there is a marked difference in opinion amongst some regulators (US Treasury, Office of Financial Research) and policymakers (New York Fed) about how well placed, or not as the case may be, the US corporate debt market is to withstand the pain of a sudden deterioration in funding conditions. More broadly, and as reflected in our discussions with key actors, that credit is cyclical means that the performance of any specific credit market will depend not only on the effectiveness of its key components, but also on the stage within any particular credit cycle that a market is operating. The illustration below presents one interpretation of where credit markets in different regions of the world are currently.

“Credit cycles are inevitable. They cannot be avoided. The question is... how do you confront this reality. You can do it in ways that try to prevent problems emerging in the first place. Or you can do it in ways that not only don't avoid problems in the first place but actually inflate those problems – through overleverage, NPLs, etc. Policymakers must attend to this reality and not suppose it can be wished away.”

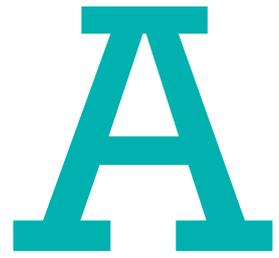
EM ex-Central Bank Director

FIGURE 16
The Global Credit Cycle Year-end 2015

Source: US Office of Financial Research, 2015



Appendices



Improving International Access to Credit Markets

Appendix 1:

Selection of Eleven Credit Markets

Credit Market	Rationale
UK Corporate Bonds, Retail Bonds	The UK is among the oldest, largest, and most well-developed credit markets in the world, with particularly strong wholesale government and corporate bond markets. The depth of the UK corporate bond market is considerable, with outstanding issuance of corporate bonds to GDP standing at almost 140%. The greatest scope for growth in investor participation is in the retail bond market. The UK is pursuing an innovation-focused credit market strategy, orientated around the growth of nascent ideas, products, processes and risk management practices.
USA Commercial Paper	The USA exhibits considerable, diverse, and deep credit markets. In 2014, total credit issuance, for example, reached almost \$6 trillion, with central government bonds and corporate bonds accounting for \$2.2 trillion and \$1.4 trillion respectively. Commercial paper markets have undergone rapid growth recently. The USA, like the UK, is a mature market with its strategic focus placed on innovation and innovation-led growth.
Singapore Commercial Mortgage- backed Securities	Singapore is a deep and high-value credit market. As of June 2014, total outstanding value of SGD debt market stands at SGD 316 billion. Singapore, in general, is highly internationalised, and the commercial mortgage-backed securities market has undergone rapid growth recently. The Singaporean authorities are geared to increasing international access and positioning this hub as a critical gateway to Asian markets.
China Government Bonds	China is a key area of investor interest and opportunities abound in its credit markets. Chinese bonds have historically offered significantly higher yields relative to other major bond markets. The Chinese authorities are showing a very gradual trend towards increased liberalisation of credit markets.
India Corporate Bonds	India has a promising credit market, which has seen increased issuance of both government securities and corporate bonds in recent years. However, despite a number of initiatives directed at growing markets in private domestic debt securities, there remain a number of important challenges to this goal reflected in the extremely low issuance of private debt securities relative to GDP. Nevertheless, India remains strategically orientated to building the infrastructure of its corporate bond market moving forward.
Japan Corporate Bonds	Japan has a well-regulated credit market with sound infrastructure. Direct financing through the corporate bond market has more than doubled. Having deregulated very effectively, Japan is pursuing policies designed to broaden the current over-reliance on its domestic investor base.

Credit Market	Rationale
Germany Schuldschein (private placements)	<p>Germany has a strong credit market, with the private placement debt market (Schuldschein) being an area with significant potential. Large international firms have recently accessed finance via this market. Germany is determined to diversify the sectoral mix of its credit market and maintain stability, while at the same time moving away from an over-reliance on bank finance.</p>
Vietnam Government Bonds	<p>Vietnam has undergone rapid growth in its GDP and the proportionate size of its consumer middle class. There have been clear signs of policy initiatives in favour of liberalisation for approximately a decade. It is becoming increasingly necessary to match the demand for finance in the real economy with effective supply via the credit markets. To this end, Vietnam is seeking to strengthen its government bond market.</p>
Norway Covered Bonds	<p>Norway has the highest per capita income in the world. It has a large covered bond market, which could provide an opportunity for investors after new legislation in 2007 enabled easier access to international participants. Norway is focused on diversifying its sectoral mix in the economy and is showing clear signs of widening access to its credit markets moving forward.</p>
Mexico Government Bonds (MBonos)	<p>In recent years, Mexico's economy has suffered from less volatility in international financial markets than many other emerging economies, and it is widening international access to its public debt markets to raise funds for much-needed infrastructure development and education programmes. Issuance of Mexican government bonds (including MBonos) has grown steadily over the past several years and this trend looks to continue in the coming years.</p>
Nigeria Government Bonds	<p>Despite challenges presented by economic governance, political instability, a lack of information and corruption, Nigeria is seeking to improve the regulation of its credit markets, and to make risk management and systemic risk mitigation more efficient and effective. Nigeria Federal Government Bonds are a core area of international investor interest and Nigeria is now using this burgeoning market to develop the infrastructure of its overall credit market.</p>

Appendix 2: CMAF Methodology

To benchmark and assess the different credit markets around the world we developed the Credit Market Assessment Framework (CMAF) across seven key dimension, namely: Legal Framework, Credit Market Infrastructure, Credit Market Regulation, Knowledge, Investor Base, Primary Market Characteristics and Secondary Market Characteristics. In addition, we also created a forward-looking measure of credit fragility that estimates the risk of default in both the financial and non-financial sectors for all countries we could access data for in the coming 12 months.

The methodology used takes underlying indexes and data for different components that are combined to proxy for different dimensions of, for example, the Legal Framework. Each country in our sample is ranked on each of these individual components, and then an average across all components is used to give an overall estimate for a given dimension. We use an equal weighting for each component and we use an equal weighting for each dimension. While it is possible to undertake factor analysis and place different weightings on different components or dimensions, this could lead to confusion over the methodology given our target audience or debates about the 'correct' statistical procedures. Our approach is, therefore, attractive in its broad understandability and it speaks to a simple and intuitive framework for examining the drivers of effective credit markets.

For our first dimension, we estimate the Legal Framework. This consists of three components: Rule of Law, Creditor Rights, and Corruption. The Rule of Law is a key factor in the development of any credit market (Djankov, McLiesh, and Shliefer, 2007). Given the contractual nature of debt securities and the plethora of different pledges and covenants that can be incorporated into contracts, some measure of the overall legal system will be necessary. In addition, a measure of creditor rights will be necessary, as it is the combination of an

effective legal regime with strong creditor rights that will engender lending. Creditors will have confidence that they will be able to seek recourse and asset recovery in bankruptcy through the courts as their rights, as clearly set out in the law and the rule of law is enforced (La Porta, Lopez-de-Silanes, Shliefer, and Vishney, 1997). The final dimension is corruption. We include this dimension as it allows our measure of the Legal Framework to have substance over form. Any environment with high levels of corruption create uncertainty and so while certain creditor rights may be present in a legal system, they are less likely to be as enforceable in a regime with high levels of corruption. The consequence of which will be that lending will be short-term and more costly (Diamond, 2007).

Our second dimension examines credit market infrastructure. This dimension focuses on the informational environment in which lending takes place, as there are clear informational asymmetries between creditors and borrowers. Where such asymmetries are high, then lending will be lower and more costly i.e. debt issuance will be of shorter maturities (Myers, 1977). This dimension is made up of five components covering whether there is a public credit registry present in a country, whether there is a private credit bureau present in a country, the depth of credit information, the cost of enforcement and the time for enforcement.

Following Djankov et al (2007), we score a country as 1 if it has a public credit registry and 1 if there is a private credit bureau. We also use data from the World Bank that provides a measure of coverage e.g. what percentage of the population are covered by some sort of registry as a measure of the depth of information present. Increased coverage reduces information asymmetry for current lending (Pagano and Jappelli, 1993). While information sharing reduces moral hazard in the future, as any defaults on current debts will form part of the information set used for lending decisions in the future (Padilla and Pagano, 2000). In addition, we include the cost of contract

enforcement and the time it takes to enforce contracts. Prior research has shown that where contract enforcement is costly or time consuming then this inhibits lending and lending is therefore more expensive and of shorter maturities (Diamond, 2007).

Regulation

To estimate a dimension that captures the regulatory environment in a given country we use two components. The first is a measure of credit regulation from The Economic Freedom of the World Report produced by the Fraser Institute. The second is an index of financial freedom to capture the level of government intervention in the economy. The credit regulation index measures three factors. First, is the ownership of banks. Data on the percentage of bank deposits held in privately owned banks were used to construct rating intervals. Countries with larger shares of privately held deposits received higher ratings. Second, is private-sector credit, which measures the extent of government borrowing relative to private-sector borrowing. Greater government borrowing indicates more central planning and results in lower ratings. Third, it measures interest rate controls/negative real interest rates in the economy, where the higher ratings are allocated to countries where the share of credit extended to the private sector increases. The second component captures the extent to which the government intervenes in the economy. Uncertainty is different from risk as it cannot be measured and managed. Government intervention results in uncertainty, and consequently limits investment. In the case of credit, it creates an additional factor that is likely to hamper the availability of credit or increase the cost of credit. It is worth noting that many of the developed nations score lower on the financial freedom index post 2008 as a result of numerous interventions in the economy to bail out the banking industry.

Knowledge

In a similar manner to analysis of Global Financial Centres, we include two components to estimate the level of education that exists in an economy. We

use a broad based index that considers the general level of education and one that considers access to advanced education. While these speak to the economy as a whole, they serve as a useful proxy for the depth of talent that is available in a given market. For example, many of those who work in banking and finance in developed economies will be just as educated as those who are working in these industries in emerging markets. However, developed economies have a wider talent pool to draw from and can grow these industries faster as there are a larger number of people with the requisite educational attainment and skills, so institutions can develop at a faster pace. Moreover, if you were to look at somewhere like London or New York, then these centres draw talent to them and clearly have advantages of agglomeration.

Investor Base

The next measure we consider is the breadth of the investor base. We specifically look at the size of Pension Fund Assets/GDP, Bank Assets/GDP, Insurance Assets/GDP, Mutual Fund Assets/GDP, and other financial institution assets/GDP. One of the key drivers of credit market growth is having the investors to supply the credit to different types of borrowers e.g. governments and corporates. We therefore consider five key investor groups relative to the size of the economy as a whole. Within economic development, there is a general trend of institutional evolution from 100% banking with subsequent growth across other institutions in insurance and pensions and then mutual funds and other collective investment vehicles. While this pattern will not always follow in this order e.g. the pension sector in Nigeria is bigger than the insurance sector, a developed economy will be characterised by a broad investor base. This creates a diversified pool of investors who will be able to supply capital to the broader economy. As with our other components, we rank each country based on each individual component and take the average across all ranks to estimate the breadth of the investor base. As a result, we take the position that over reliance on one provider of capital for e.g. banks is bad for

the economy and development of credit markets as the pool of capital is undiversified, and so if banks stop lending for whatever reason then access to credit will be reduced.

Primary Markets

To examine primary market issuance we include three components, International Debt Issuance/GDP, Corporate Bond Issuance/GDP, and Syndicate Loan Issuance/GDP. The first component captures the amount of private international debt securities as a share of GDP. It covers public and private long-term bonds, notes and money market instruments placed on international markets. The second dimension is the ratio of new corporate bond issuance volume by private entities in industries other than finance, holding companies and insurance to GDP. This dimension allows for an assessment of the level of credit being extended to the corporate sector. The third dimension captures the ratio of new syndicated borrowing volume by private entities in industries other than finance, holding companies and insurance to GDP. The inclusion of syndicated loan issuance is important as it captures a level of innovation in the private credit market as pools of investors are providing finance to one borrower.

Secondary Markets

To examine the size and depth of the secondary markets of a country we consider five key components. First, we rank the amount outstanding of both public and private international debt securities (amount), as a share of GDP. This measure covers long-term bonds, notes and money market instruments placed on international markets. Second, we include two measures of liquidity in the economy and rank Liquid Assets/GDP, which consists of demand, time and saving deposits in deposit money banks and other financial institutions as a share of GDP and the ratio of liquid liabilities to GDP. Liquid liabilities are also known as broad money, or M3. They are the sum of currency and deposits in the central bank (M0), plus transferable deposits and electronic currency (M1), plus time and savings deposits, foreign currency

transferable deposits, certificates of deposit, and securities repurchase agreements (M2), plus travellers checks, foreign currency time deposits, commercial paper, and shares of mutual funds or market funds held by residents. Finally, we examine the ratio of private to public debt in the economy, which is measured as the total amount of domestic private debt securities to public debt securities covering both public and private long-term bonds and notes, commercial paper and other short-term notes.⁸ The combination of these components allows us to capture the size of the secondary market, the levels of general liquidity in the economy and the relative size of government debt securities to private debt securities.

⁸ The definitions for primary and secondary market data are taken from the World Bank Global Financial Data Database 2015.

Appendix 3: Function of Credit by Instrument

Different credit instruments have specific functions in broadening, deepening, stabilising, and driving growth in the overall credit market:

Sovereign/Government Bonds are lower risk instruments within an economy, and this is especially true in the case of US Treasuries, UK Treasuries/Gilts and German Bunds. These bonds provide investors with payments which are relatively safe because governments can ultimately raise funds for repayment through general taxation. This motivates much of the investment in this asset class because they allow investors to preserve and increase their capital and to receive a dependable stream of income from the investment. The US Treasury market, for example, has very high levels of liquidity. US Treasuries trade so frequently and in such large volumes, that spreads between what a dealer would be willing to pay to buy and sell these securities for is considerably lower than for other securities. Lower trade transaction costs and more efficient price discovery (determining the best possible price for buyers and sellers) result from this high liquidity, and so the US Treasury market functions as a crucial driver of secondary market activity and it improves the overall capability of investors to evaluate credit products and to assess market-led prices. Moreover, the efficiency and confidence in short-term government securities, such as 30-day treasuries, allows for better risk-pricing as this can be used as a 'risk-free' benchmark rate when pricing other risky assets. Moreover, because sovereign issuers are assigned credit ratings from Moody's and Standard & Poor's, which are frequently reviewed and amended, the global sovereign bond market essentially acts as an incentive for governments to behave prudently and competitively via targeted fiscal and monetary policies.⁹

Municipal Bonds allow institutional, and in some instances retail investors, to access

credit products where official governments act as guarantors. Such assets are often exempt from the general taxation in a territory's private sector credit markets. In addition, they are a growth area for investment both in regimes where this asset class is longstanding, such as the US, and where this asset class is emerging, such as the UK and high-growth regions. Some "muni-markets", like that of the USA, offer investment grade yields based on sustained growth in a highly developed economy. Others, such as Indian or Mexican muni-bond markets, provide investment opportunities which in general have higher yields due to emerging market growth. This instrument, therefore, enables investors to build a portfolio on region-specific economic growth within a given territory. Since municipal authorities would otherwise most likely seek bank financing to finance on-going development, the muni-bond market also helps to avoid excessive concentration of risk in the banking sector of developing/emerging economies.

The case in point for tax exempt municipal bonds is the US market. Here, the interest income from these bonds and the shorter-term municipal notes, issued by individual territories and possessions in the US is exempt from federal, state, and local income taxes in 50 states. This tax exemption is obviously attractive to investors given that even at relatively low yields, such investments can actually produce greater after-tax income than many other higher yielding investments, and it is this tax advantage that drives much of the activity in the secondary market. Moreover, municipal bonds also enable secondary market buyers to reduce tax outgoings whilst not significantly increasing the credit risk of their portfolio.

The Money Market is a mechanism through which short term debt can be issued, with maturities lasting from periods of several days to several months. The money market enables firms with temporary cash surpluses to invest in short-term low-risk securities. Alternatively, companies with a temporary cash shortfall can borrow on a short-term basis. The money market and the various money market instruments therefore function as a repository wherein short-term cash

⁹ Financial Times, UK loses triple A credit rating, February 2013

demands can be addressed efficiently and effectively. Commercial paper is a short-term debt instrument which can be used to finance immediate and short-term corporate expenditures. This includes covering unusually high one-off invoice payments, unusual payroll events, funding for small-scale projects, or unforeseen administrative costs. The fundamental function of this instrument is to complement longer-term lower-cost credit, the issuance of which is costly and bureaucratically cumbersome, with an additional easy-to-access marketplace for shorter-term borrowing. The issuance of commercial paper is inherently less onerous in terms of registration requirements, documentation preparation, regulatory compliance issues and disclosure stipulations.

US commercial paper, for example, does not need to be registered with the Securities and Exchange Commission (SEC) since it matures before the nine-month registration requirement. It is a highly cost-effective means of financing short-term investment. As long as proceeds from commercial paper issuance are premised on current assets, such as accounts receivable, and not on fixed assets, such as new capital investment, they do not require SEC involvement. The exemption from SEC registration means that issuers can avoid financial expenses and bureaucratic hurdles involved therein, and purchasers do not incur knock-on charges.

Corporate Bonds enable corporations to raise funds for financing new ventures, working capital, or large scale research and development projects. The presence of such assets are concomitant with a reduction of overall systemic risk because corporate bond markets cannot operate effectively in illiquid conditions. For a corporate bond market to function effectively, there needs to be high standards of accounting transparency, a sophisticated professional financial analysis sector, and it also necessitates the presence of high-quality rating agencies and practices. In addition, the successful widening of the available range of corporate debt securities necessitates improvements in firm-level credit analysis and highly efficient procedures for

corporate re-organisation and liquidation. Nearly all corporate bonds are evaluated for creditor quality by Standard & Poor's, Moody's Investors Service and Fitch Ratings. The corporate bond market, therefore, functions as a critical driver of high-quality risk management methodologies and practices.

Convertible Bonds allow the holder the option of exchanging the bond, which is held as a corporate bond, for a predetermined number of shares in the issuing company. As such, these assets are a market mechanism for providing an option that benefits bondholders when companies undergo rapid growth. Convertibles have an embedded option allowing the holder to benefit from a significant rise in the price of the underlying stock. As a result of the embedded option the yields on convertibles are lower compared to straight bonds. These bonds allow the investor to access both the debt and equity of the firm because they can be converted into common stock. As such, these bonds can potentially provide bond purchasers with enhanced opportunities to participate in the growth of a particular company, which would not be possible with a traditional corporate bond.

Asset-backed Securities enable owners of assets, which consist of debt receivables other than mortgage loans, to use these receivables as financial asset collateral, which can combine the issuance of high yield and AAA rated bonds or notes into a single product. The Special Purpose Vehicles that are involved in the process of securitisation are able to make pools of these receivables sellable. Asset-backed securities, therefore, facilitate the expansion and improvement of robust secondary markets and in general, they improve liquidity in the marketplace, and enable difficult-to-trade assets to be made readily marketable. The securities, which are then sold to investors by investment banks that underwrite them, are also "credit-enhanced".

Mortgage-backed Securities enable mortgage lenders to obtain funds to make

more loans by pooling groups of loans with similar characteristics to create securities or to sell the loans to issuers of mortgage securities. Mortgage securities play a crucial role in the availability and cost of housing in many countries. The ability to securitise mortgage loans enables mortgage lenders and mortgage bankers to access a larger pool of capital, to make financing available to home buyers at a lower cost, and to spread the flow of funds to areas of the country where capital may be scarce. Through further pooling via collateralised mortgage obligations, cash flows can be redirected so that different classes of securities with different maturities and coupons can be created. These may be collateralised by raw mortgage loans as well as already securitised pools of loans, thereby helping to deepen the secondary market in mortgage-backed securities.

Credit Default Swaps (CDS) contracts constitute a market solution to adverse credit events i.e. insolvency and allow individuals and companies exposed to credit risk to shift some of the risk by buying protection via a CDS contract. Using a portfolio of CDS contracts, an investor is able to create a synthetic portfolio of bonds that has the same credit exposure and payoffs. Ultimately, credit default swaps are a highly useful portfolio risk management tool as well as a vehicle for speculation. CDS contracts and portfolios boost the levels of sophistication in the speculative function of financial markets, and provide a highly efficient means of evaluating the credit of a reference entity as well as fuelling activity in the secondary markets.

Swaps provide a marketplace solution for serving commercial needs arising from a mismatch between company assets and company liabilities. Banks, which earn a fixed rate on loans but pay a floating rate on liabilities, can avoid consequent difficulties by paying a fixed-pay swap (paying in a fixed rate and receive a floating rate) to convert their fixed-rate assets into floating-rate assets. In doing so, banks can match their floating-rate liabilities. Swaps also help

companies to acquire types of financing which they cannot access directly. This occurs as swaps enable companies that have a comparative advantage in accessing a certain form of finance which they do not desire to subsequently convert this financing to a more desirable type. Swaps, therefore, play a key role in deepening the credit markets.

Works Cited

1. ASIFMA (2013) Indian Bond Market Roadmap
2. Bank of England (2014) Should the Availability of UK Credit Data be Improved?
3. Bank for International Settlements (2014) Working Paper no. 466 Benchmark tipping in the global bond market
4. Bank of England and European Central Bank (2014) Discussion Paper: the Case for a Better Functioning Securitisation Market in the European Union.
5. Beck, T., & Levine, R. (2008). *Legal institutions and financial development* (pp. 251-278). Springer Berlin Heidelberg.
6. Bernanke, B. (2012) At the Russell Sage Foundation and The Century Foundation Conference on "Rethinking Finance," New York, New York.
7. Carlin, W. and Mayor, C., 2003. Finance, Investment and Growth. *Journal of Financial Economics*, 69(1), pages 191-226
8. Demircuc-Kunt, A. and Maksimovic, V., 1998. Law, Finance and Firm Growth. *The Journal of Finance*, 53(6), pp. 2107-2137.
9. Diamond, D. W., 2007. Legal Systems, Bank Finance and Debt Maturity. In *University of Chicago Booth School, Working Paper*.
10. Djankov, S., McLiesh, C. and Shleifer, A., 2007. Private Credit in 129 Countries. *Journal of Financial Economics*, 84(2), pp. 299-329.
11. Ernst and Young (2015) Credit Markets 2014-2015.
12. Finance Norway (2015) Norwegian Covered Bonds (Updated)
13. Goldman Sachs (2015) FAQ: China Bond Market.
14. Gu and Kowalesku (2015) Creditor Rights and the Corporate Bond Market. *Wharton Financial Institutions Center Working Paper No.14-20*
15. Hall (2008) The Importance of Financial Literacy (Reserve Bank of Australia) Address by Mr Keith Hall, Assistant Governor (Banking and Payments), to the Conference on Deepening Financial Capacity in the Pacific Region, Sydney, 25 August 2008.
16. Hart, O., 1995. Corporate governance: some theory and implications. *The Economic Journal*, 105(430), pp.678-689.
17. ICAEW (2011) Information for Better Markets. London.
18. IMF (2008) A Framework for Developing Secondary Markets for Government Securities
19. IMF (2014) Global Financial Stability Report.
20. La Porta, R., Lopez-deSilanes, F., Shleifer, A. and Vishny, R.W., 1999. *Investor protection: origins, consequences, and reform* (No. w7428). National Bureau of Economic Research.
21. La Porta, R., Lopez-deSilanes, F., Shleifer, A. and Vishny, R.W., 1997. Legal Determinants of External Finance. *Journal of Finance*, 52, pp.1131-1150.
22. Lusardi, A. and Mitchell, O. S., 2014. *The Economic Importance of Financial Literacy* (No. w18952). National Bureau of Economic Research.
23. Mann, W. (2014). Creditor rights and innovation: Evidence from patent collateral. Working paper. Available at SSRN 2356015.
24. Meves (2012) Financing Specialty: Schulschein, Ernst and Young performance portal paper
25. Morris, S. and Shin, H. S., 2002. Social Value of Public Information. *The American Economic Review*, 92(5), pp. 1521-1534.
26. Murphy (2012) Maintaining Confidence. LSE Financial Markets Group Paper Series.
27. Neuberger (2015) Financial Inclusion, Regulation and Education in Germany.
28. Norges Bank (2015) Oil and the Norwegian Economy
29. NYKredit (2013) Nordic Covered Bonds – Norway (a handbook)
30. OECD (2011) Discussion Paper on Credit Information Sharing
31. OECD (2015J) Economic Surveys: Japan
32. OECD (2015P) Growth of Indian Insurance Industry and Determinants of Solvency
33. Padilla, A. J., and Pagano, M., 2000. Sharing Default Information as a Borrower Discipline Device. *European Economic Review*, 44(10), pp.1951-1980.
34. Pagano, M., and Jappelli, T. 1993. Information Sharing in Credit Markets.

Key Reading by Country

Journal of Finance, 48(5), pp.1693-1718.

35. PWC (2015) Global Financial Markets Liquidity Study I
36. PWC (2015B) Renminbi Funds: The Success Story is Underway.
37. Scope Ratings (2015) German Market for Corporate Schuldschein
38. Simmons and Simmons (2014) The Advanced Schuldschein Guide.
39. World Bank (2014M) Mexico: Overview
40. World Bank (2015) China: Economic Update.
41. World Bank (2013) Global Financial Development Database
42. Z/Yen, Global Financial Centres Index 19, 2016

UK

1. IMAS Corporate Finance. "UK financial Services Annual Review 2014". The Department for UK Trade and Industry (2015). <http://imas.uk.com/PDF/Publications/97fifty-nine280469IMASAR14WEBFINAL.pdf> (accessed on 12/12/2015).
2. Burrows, O and Low, K. "Mapping the UK Financial System". Bank of England (2015).
3. Bank of England "Mapping the UK financial system" <http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2015/q201.pdf> (accessed on 12/12/2015).
4. Bush, O., Knott, S. and Peacock, C. "Why is the UK Banking System so Big and is that a Problem?" Bank of England (2014). <http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2014/qb14q402.pdf> (accessed on 12/12/2015).
5. Burgess, S. "Measuring Financial Sector output and its Contribution to GDP". Bank of England (2011). <http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/qb110304.pdf> (accessed on 12/12/2015).
6. Anderson, N et al. "The Resilience of Financial Market Liquidity". Bank of England Financial Stability Paper 34 (2015). http://www.bankofengland.co.uk/financialstability/Pages/fpc/fspapers/fs_paper34.aspx (accessed on 12/12/2015).
7. City of London Corporation. "An Indispensable industry: Financial services in the UK". (2013) <https://www.cityoflondon.gov.uk/business/economic-research-and-information/statistics/Documents/an-indispensable-idustry.pdf> (accessed on 12/12/15).
8. Yeandle, M and Mainelli, M. "Global Financial Centres Index". Z/Yen group and Qatar Financial Centre (2015). http://www.longfinance.net/images/GFCI18_23Sep2015.pdf

9. Association of British Insurers. "UK Insurance Key Facts". <https://www.abi.org.uk/~media/Files/Documents/Publications/Public/2014/Key%20Facts/ABI%20Key%20Facts%202014.pdf> (accessed on 12/12/2015).

USA

10. Y-Charts. "US Banks Total Assets" https://ycharts.com/indicators/us_banks_total_assets (accessed on 14/12/2015).
11. Vanderpool, C. "5 Banks hold more than 44% of US Industry's Assets". SNL Financial (2014). <https://www.snl.com/InteractiveX/Article.aspx?cid=A-30025507-14130> (accessed on 14/12/2015).
12. Fischer, S. "The Importance of the non-Bank financial sector" speaking at the "Debt and Financial Stability--Regulatory Challenges" meeting 27th March 2015, Bundesbank and the German Ministry of Finance, <http://www.federalreserve.gov/newsevents/speech/fischer20150327a.htm> (accessed on 14/12/2015).
13. Qunadl. "GDP as Share of World GDP at PPP by Country" <https://www.quandl.com/collections/economics/gdp-as-share-of-world-gdp-at-ppp-by-country> (accessed on 14/12/2015).
14. Narain, A, ihák, M, and Gray, S. "United States: Financial System Stability Assessment" International Monetary Fund: Country Report 15/170 <http://www.imf.org/external/pubs/ft/scr/2015/cr15170.pdf>
15. Millard, S. "The US Insurance Industry: Largest in the World" Market Realist <http://marketrealist.com/2015/02/life-insurance-pc-insurance-reinsurance/> (accessed on 14/12/2015).
16. Select USA. "The Financial Services Industry in the United States" <http://selectusa.commerce.gov/industry-snapshots/financial-services-industry-united-states> (accessed on 14/12/2015).

Norway

17. "Credit Rating" (Data Table), Trading Economics <http://www.tradingeconomics.com/country-list/rating> (accessed on 10/12/2015).

18. "Financial Inclusion data/ Global Findex; Norway".(Data Table), The World Bank. <http://datatopics.worldbank.org/financialinclusion/country/norway>(accessed on 10/12/2015).
19. Walsgard, JC. "Liquidity Squeeze Is On for Norway Bonds as Oil Drop Drains Cash" Bloomberg <http://www.bloomberg.com/news/articles/2015-09-29/liquidity-squeeze-is-on-for-norway-bonds-as-oil-drop-drains-cash> (accessed on 10/12/2015).
20. "Risk Outlook: The Financial Market in Norway". The Financial Supervisory Authority of Norway (2015). <http://www.finanstilsynet.no/en/Document-repository/Reports/2015/Risk-Outlook-2015-The-Financial-Market-in-Norway/> (accessed on 10/12/2015).
21. "Market Value: Government Pension fund" Government of Norway (2013): <https://www.regjeringen.no/en/topics/the-economy/the-government-pension-fund/market-value-of-the-government-pension-f/id699635/> (accessed on 10/12/2015).
22. "Financial and Non-Financial accounts (Discontinued)". (Data Table) Statistics Norway (2013) <https://www.ssb.no/statistikkbanken/SelectVarVal/Define.asp?MainTable=FinansSektor2Ar&KortNavnWeb=finsea&PLanguage=1&checked=true> (accessed on 10/12/2015).

Nigeria

23. "Nigeria" UNICEF(2015) http://www.unicef.org/appeals/files/Final_2015_HAC_Nigeria_chapter.pdf
24. Barungi,B. Ogunleye, E and Zamba, C. "Nigeria" African economic outlook (2015). <http://www.africaneconomicoutlook.org/en/country-notes/west-africa/nigeria/>
25. Financial Times, "Concern grows over Nigeria's lack of economic direction" <http://www.ft.com/cms/s/0/5f091dea-3145-11e5-91ac-a5e17d9b4cff.html#axzz3tkqS7Wod>
26. "Nigeria GDP Annual growth Rate". (Data Table) Trading Economics (2015): (<http://www.tradingeconomics.com/nigeria/gdp-growth-annual>) (accessed on 10/12/2015).

27. Sanders, C. "Nigeria's Corruption challenge" Transparency International (2015) (http://www.transparency.org/news/feature/nigerias_corruption_challenge)
28. "Financial Inclusion data/ Global Findex; Nigeria". (Data Table), The World Bank. <http://datatopics.worldbank.org/financialinclusion/country/nigeria> (accessed on 10/12/2015).
29. Maduka, Anne and Onwuka, Kevin O. "Financial Market Structure and Economic Growth: Evidence from Nigeria Data" Asian Economic and Financial Review, 2013, 3(1):75-98 Accessed at: <http://www.aessweb.com/pdf-files/75-98.pdf> on 10/12/2015.

Singapore

30. Liu, L and Reinhardt, A. "World's Strongest Financial markets" Bloomberg http://www.bloomberg.com/ss/09/10/1030_worlds_strongest_financial_markets/5.htm
31. "Singapore GDP Annual Growth Rate". (Data Table) Trading Economics (2015). <http://www.tradingeconomics.com/singapore/gdp-growth-annual> (accessed on 11/12/2015).
32. "Table 1.8 Banks: Statutory liquidity Positions of DBU's". The Monetary Authority of Singapore (2015). <https://secure.mas.gov.sg/msb-xml/Report.aspx?tableSetID=&tableID=1.8>
33. Habermeier, K et al. "Singapore: Financial System stability Assessment". International Monetary Fund (2013). <https://www.imf.org/external/pubs/ft/scr/2013/cr13325.pdf>
34. Patterson, J. "SGX Reports September 2015 Volumes, Derivatives Volumes in Retreat" Finance Magnates (10/12/15) <http://www.financemagnates.com/institutional-forex/exchanges/sgx-reports-2015-volumes-derivatives-volumes-in-retreat/>
35. Yeandle, M and Mainelli, M. "Global Financial Centres Index" Z/Yen group and Qatar Financial Centre (2015). http://www.longfinance.net/images/GFCI18_23Sep2015.pdf

India

36. "Assets of India's Financial Institutions touch \$2.8 trillion". Economic Times (Nov 2014)

- http://articles.economictimes.indiatimes.com/2014-11-02/news/55682453_1_shadow-banking-brics-nations-financial-institutions
37. "Liabilities and assets of the Life Insurance Corporation of India up to 2013-14" (Data Table) Government of India (2015). <https://data.gov.in/catalog/liabilities-and-assets-life-insurance-corporation-india>
38. "Pension Funds in Figures: Pension funds' assets in 2014 top USD 25 trillion in OECD countries" OECD pension finance fund (2015): <http://www.oecd.org/finance/Pension-funds-pre-data-2015.pdf>
39. Financial Times, "P Jayendra Nayak spells out reform of Indian public sector banks" <http://www.ft.com/cms/s/0/a7f699a8-6073-11e5-9846-de406ccb37f2.html#axzz3uJ0Du1rb>
40. Saraswathy, M. and Kant, K. "At Rs 5 lakh cr, LIC to be India's most valuable firm if listed" Business Standard (June 2014). http://www.business-standard.com/article/companies/at-rs-5-lakh-cr-lic-to-be-india-s-most-valuable-firm-if-listed-114061101114_1.html
41. "Insurance sector in India" India Brand Equity Foundation (2015). <http://www.ibef.org/industry/insurance-sector-india.aspx> (accessed at 14/12/2015).

Mexico

42. Manning, J. "The Outlook for Mexico's Banking System". International Banker (2015) <http://internationalbanker.com/banking/the-outlook-for-mexicos-banking-system/>
43. De Montmollin, P. "Mexico's Insurance Industry Number Two in Latin America by Assets" BN Americas (November 2012) <http://www.bnamericas.com/en/news/insurance/mexicos-insurance-industry-number-two-in-latin-america-by-assets>
44. Fuentes, C R. "Mexico's Pension Fund System" Comision Nacional del Sistema de Ahorro para el Retiro (2013). https://www.consar.gob.mx/sala_prensa%5CPDF%5Cpresentaciones%5CChamber_of_Commerce.pdf
45. "Depths of Financial Markets" Central Banking (2013) derived from World Bank Data <http://www.>

globalbanking.org/globalbanking.taf?section=maps&map=financial-depth-markets.

Japan

46. Jones, Randall, Fukawa, K and Kim, M "OECD Economic Surveys: Japan". The Organisation for Economic Cooperation and Development (2015). <http://www.oecd.org/eco/surveys/Japan-2015-overview.pdf>
47. "Gross Domestic Product 2014" The World Bank <http://databank.worldbank.org/data/download/GDP.pdf> (accessed on 11/12/2015)
48. "Japan Country Overview" The World Bank. <http://data.worldbank.org/country/japan> (accessed on 11/12/2015)
49. "Non-Bank Financial Institutions' Assets to GDP for United States" Federal Reserve Bank of St Louis derived from World Bank Data (2013). <https://research.stlouisfed.org/fred2/series/DDDI03USA156NWDB>
50. "Japan GDP per Capita". Trading Economics (2014). <http://www.tradingeconomics.com/japan/gdp-per-capita> (accessed on 11/12/2015)
51. Udaibir S. Das, Blancher, N., and Arslanalp, S "Japan: Financial Sector Stability Assessment Update" International Monetary Fund (2012) <https://www.imf.org/external/pubs/ft/scr/2012/cr12210.pdf>
52. "Japan: Financial Sector Assessment Program—Technical Note on Credit Intermediation" International Monetary Fund (2012). <https://www.imf.org/external/pubs/ft/scr/2012/cr12262.pdf>

Vietnam

53. World Bank / IMF (2014) Vietnam: Financial Sector Assessment. http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2015/06/10/090224b0828b61ae/1_0/Rendered/PDF/Vietnam000Financial0sector0assessment.pdf
54. Asian Development Bank (2014). Vietnam: Financial Sector Assessment – Strategy and Road Map. <http://www.adb.org/sites/default/files/institutional-document/42848/files/viet-nam-financial-sector-assessment-strategy-and-road-map.pdf>
55. ASEAN+3 (2012) ASEAN bond initiative,

Bond Market Guide – Viet Nam. https://asianbondsonline.adb.org/publications/adb/2012/asean+3_bond_market_guide.pdf

56. OECD (2012) Vietnam: Economic Overview. <http://www.oecd.org/countries/vietnam/Viet%20Nam.pdf>
57. Vietnam Bond Market Association (2014) Vietnam Bond Markets. <http://www.vbma.org.vn/vbma/userfiles/upload/file/Bond%20market%20report/April%202014%20Bond%20Market%20Report.pdf>.

Germany

58. OECD (2014) Germany: Economic Overview. <http://www.oecd.org/eco/Germany-Overview-2014.pdf>
59. Deutsche Bundesbank Statistics [online] at: https://www.bundesbank.de/Navigation/EN/Statistics/Time_series_databases/Macro_economic_time_series/its_details_value_node.html?tsId=BBK01.OU0308
60. Moody's Investor Service (2015) update on German banking stability [online] at: https://www.moody.com/research/Moodys-changes-outlook-on-Germans-banking-system-to-stable--PR_335784
61. Deutsche Bundesbank (2014) Financial Stability Review. https://www.bundesbank.de/Redaktion/EN/Downloads/Publications/Financial_Stability_Review/2014_financial_stability_review.pdf?__blob=publicationFile

China

62. IMF (2011) People's Republic of China: Financial Stability Assessment. <https://www.imf.org/external/pubs/ft/scr/2011/cr11321.pdf>
63. World Bank / IMF (2011) Financial Stability Assessment Program: China. <http://www.worldbank.org/content/dam/Worldbank/document/WB-Chinas-Financial-Sector-Assessment-Report.pdf>
64. ASEAN+3 (2012) ASEAN bond initiative, Bond Market Guide – China https://asianbondsonline.adb.org/publications/adb/2012/asean+3_bond_market_guide.pdf
65. PWC (2014) Banking and Finance in China: the Outlook for 2015. www.pwccn.com/webmedia/doc/635585738589999909_bfic_2015.pdf

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