CHAPTER 1.1

The Financial Development Index 2012: Stalled Recovery – In Search of Growth

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The global economic outlook remains quite bleak. In October this year, the International Monetary Fund cut its 2012 global growth forecast slightly to 3.3 percent, with the warning that its outlook depended on rapid policy action, especially in the euro zone. The Fund also said that emerging markets continue to be the global driver of growth, forecasting 5.3 percent for 2012 and 5.6 percent for 2013. Nevertheless, these predictions are tied to the expectation that emerging markets will take steps to support their economies in a time of continued global turmoil.

Although pockets of recovery from the recent crisis are appearing, many observers believe that a number of issues remain. Some of these are legacy issues from before the crisis, such as rising and unsustainable debt levels, while others are a direct result of the crisis, such as high unemployment and economic stagnation in some emerging economies due to trade linkages. One issue that everyone can agree on is that sustainable growth in the long term is absolutely essential to the process of overcoming many of the challenges that countries across the world face.

Empirical studies have generally found that cross-country differences in levels of financial development explain a considerable portion of the differences in growth rates of economies.[1] Countries should, therefore, take a holistic view by identifying and improving long-term factors crucial to their financial development. This would encourage economic prosperity for all participants in the global economy.

It is against this backdrop that the fifth annual *Financial Development Report* aims to provide policymakers with a common framework to identify and discuss the range of factors that are central to the development of global financial systems and markets. It provides the Financial Development Index ("the Index"), which ranks 62 of the world's leading financial systems and can be used by countries to benchmark themselves and establish priorities for financial system improvement. The *Financial Development Report* is published annually so that countries can continue to compare themselves with their peers and track their progress over time.

In recognition of the diversity of economies covered by the Index and the variety of financial activities that are vital to economic growth, the *Report* provides a holistic view of financial systems. For the purposes of this *Report* and the Index, we have defined *financial development* as *the factors, policies, and institutions that lead to effective financial intermediation and markets, as well as deep and broad access to capital and financial services*. This definition thus spans the foundational supports of a financial system, including the institutional and business environments; the financial intermediaries and markets through which efficient risk diversification and capital

allocation occur; and the results of this financial intermediation process, which include the availability of, and access to, capital.

The Index relies upon current academic research, both in selecting the factors that are included and in determining its overall structure. Consistent with its purpose of supporting the long-term development of financial systems and their central role in economic growth, it also encourages a broad analysis rather than a theoretical focus on a few specific areas. Such a holistic view will allow decision makers to develop a balanced perspective as to which aspects of their country's financial system are most important and to empirically calibrate this view relative to other countries.

Financial development and economic growth

A large body of economic literature supports the premise that, in addition to many other important factors, the performance and long-term economic growth and welfare of a country are related to its degree of financial development. Financial development is measured by factors such as size, depth, access, and the efficiency and stability of a financial system, which includes its markets, intermediaries, range of assets, institutions, and regulations. The higher the degree of financial development, the wider the availability of financial services that allow the diversification of risk. Such diversification, in turn, increases the long-term growth trajectory of a country and ultimately improves the welfare and prosperity of producers and consumers that have access to financial services. The link between financial development and economic growth can be traced back to the work of Joseph Schumpeter in the early 20th century,[2] and more recently to Ronald McKinnon and Edward Shaw. This link is now well established in terms of empirical evidence.[3]

In general, economic recoveries after financial crises have been shown to be much slower than those that occur after recessions not associated with financial crises.[4] This has been the case in the slow economic recovery of many countries since the onset of the recent crisis. The added strain on the financial system of the current crisis has only increased the need for stability. However, it is also important to consider the positive impact that broader financial development and more dynamic financial systems can have on longer-term economic growth. Research supports the idea that countries that have experienced occasional financial crises have, on average, demonstrated higher economic growth than countries that have exhibited more stable financial conditions.[5] While it is important to mitigate the short-term impact of crises, it is also important to view financial development in terms beyond that of financial stability.

Economic theory suggests that financial markets and intermediaries exist mainly because of two types of market frictions: information costs and transaction costs. The role of financial markets and intermediaries is to assist in the trading, hedging, diversification, and pooling of risk; provide insurance services; allocate savings and resources to the appropriate investment projects; monitor managers and promote corporate control and governance; mobilize savings efficiently; and facilitate the exchange of goods and services.

Financial intermediation and financial markets contribute directly to economic growth and aggregate economic welfare through their effect on capital accumulation (the rate of investment) and on technological innovation. First, greater financial development leads to greater mobilization of savings and its allocation to the highest-return investment projects. This increased accumulation of capital enhances economic growth. Second, by allocating capital to the right investment projects and promoting sound corporate governance, financial development increases the rate of technological innovation and productivity growth, further enhancing economic growth and welfare.

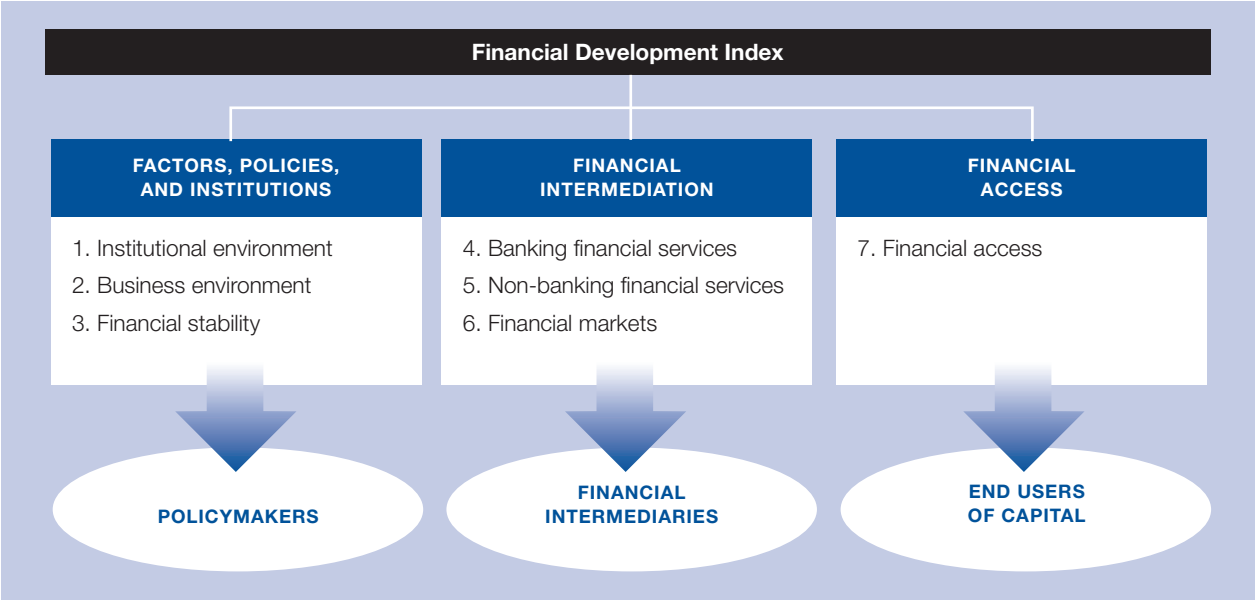
Financial markets and intermediation also benefit consumers and firms in many other ways that are not directly related to economic growth. Access to financial markets for consumers and producers can reduce poverty, such as when the poor have access to banking services and credit. The importance of microfinance becomes clear in this context. Credit access for consumers smoothes consumption over time through borrowing and/or lending and stabilizes consumer welfare during temporary shocks to wages and income. By contributing to the diversification of savings and of portfolio choices, microfinance can also increase the return on savings and ensure higher income and consumption opportunities. Insurance services can mitigate a variety of risks that individuals and firms face, and allow better sharing of individual or even macroeconomic risk.[6]

The seven pillars of financial development

The degree of depth and efficiency in the provision of financial services depends on several factors, all of which—along with their respective interactions—must be taken into account when one is looking to understand and measure the degree of financial development. Conceptually, in an index that measures financial development, the various aspects of development can be seen as seven "pillars" grouped into three broad categories, as indicated in Figure 1:

1. ***Factors, policies, and institutions:*** the foundational characteristics that allow the development of financial intermediaries, markets, instruments, and services.

Figure 1: Composition of the Financial Development Index



Source: World Economic Forum.

2. ***Financial intermediation:*** the variety, size, depth, and efficiency of the financial intermediaries and markets that provide financial services.
3. ***Financial access:*** access by individuals and businesses to different forms of capital and financial services.

The seven pillars are organized and described below according to these three categories. (See Appendix A for the detailed structure of the Index and a list of all indicators.)

Factors, policies, and institutions

The first category covers those foundational features that support financial intermediation and the optimal provision of financial services, and includes the first three of the seven pillars: the institutional environment, the business environment, and the degree of financial stability.

First pillar: Institutional environment

The institutional environment encompasses the macroprudential oversight of financial systems, as well as the laws and regulations that allow the development of deep and efficient financial intermediaries, markets, and services. It includes the overall laws, regulations, and supervision of the financial sector, as well as the quality of contract enforcement and corporate governance. Economic theory proposes that a strong institutional environment alleviates information and transaction costs.[7] Much empirical work has tackled issues related to the importance of institutions and their impact on economic activity in general. The presence of legal institutions that safeguard the interests of investors is an integral part of financial development.[8] Reforms that bolster a country's legal environment and investor protection are likely to contribute to a more efficient financial sector.[9] Accordingly, we have included variables related to the degree of judicial independence and judicial efficiency. In addition, a recent study stresses the importance of carrying out institutional reforms, such as stronger property rights, as the financial sector develops. Only with such reforms can a move to a more market-based financial system benefit a country's population at large and the poor in particular.[10]

The recent crisis clearly highlighted the importance of regulation at the institutional level as it relates to financial stability and its corresponding effects on the real economy. The systemic nature of certain industries and corporations requires proper oversight through a solid regulatory framework. In particular, the shadow banking sector has captured much attention. For a more detailed discussion of regulation of shadow banking, please see Box 1 and subsequent Chapter 1.2. The recent financial crisis also emphasized the critical role central banks play in the functioning of financial systems. Therefore, we have included a measure related to central bank transparency, as well as a variable addressing the effectiveness of regulation of securities exchanges. In addition, a study conducted this year finds that weak governance quality is associated with a higher incidence of both fiscal and political stress events,[11] supporting our indicator on public trust in politicians. Finally, there is still much debate around supervision and internationally coordinated or harmonized regulation, both of which are important considerations. However, since cross-country data remain sparse, we are unable to include any specific indicators, at least until further research becomes available.

Box 1: Drawing boundaries around and through the banking system

Please see Chapter 1.2 by Darrell Duffie for a full discussion of this topic.

As operators of payment and settlement systems, banks play a critical role in ensuring that buyers of goods and services are able to complete their transactions. Banks also facilitate the use of money through credit intermediation and maturity transformation—they use short-term funding to finance longer-term assets. Outside the banking system is the shadow banking system—a complex and ambiguously defined web of financial institutions that conduct financial intermediation and maturity transformation services for savers and investors through a variety of securitized funding methods. Investment banks, prime money-market mutual funds, and structured investment vehicles (SIVs) are just a few examples of the shadow banks that comprise this universe. Although shadow banks offer close substitutes to traditional bank lending and deposit taking, they are not regulated as banks. As a result, they traditionally lack the safety net that is offered to banks in times of crisis.

However, in the crisis of 2007-2009, the US safety net was extended to failing non-banking financial institutions such as AIG, Fannie Mae, and Freddie Mac, and to money market mutual funds suffering runs. The decision to bail out members of the shadow banking world did not come without scrutiny. Extending government support without increased regulation raises the threat of moral hazard. As a consequence, a debate invariably arises over how the traditional and shadow banking systems should be regulated and what impact this will have on market efficiency and financial stability.

In the United States, the discussion has resulted in legislation known as the Volcker Rule, which restricts regulated banks and affiliates from financial trading activities other than those necessary for hedging their own risks, making markets, and underwriting new securities offerings. In practice, the ability of regulators to distinguish between hedging and market-making activities is quite limited, and implementation of the Volcker Rule may thus have negative consequences for market liquidity. New non-regulated market makers may eventually fill this void, and the whole debate over shadow activities will start anew.

The United Kingdom's response to the dangers exposed by the financial crisis has been to "ring fence" traditional domestic banks from wholesale global banking activities, such as securities and derivatives trading. Like the Volcker Rule, ring fencing may be difficult to implement because of the ambiguity in identifying when a bank's clients are obtaining commercial hedging services and when they are routing demands for speculative positions through the bank's "domestic side" in order to have a safer counterparty.

The debate over defining the regulatory boundaries of the banking system and additional rules for shadow banks is an important one. Policymakers must weigh the costs and benefits of tighter regulation and the extension of safety nets to shadow banks. These decisions will undoubtedly have profound consequences on effective and efficient financial intermediation, as well as on financial stability.

High-quality corporate governance is believed to encourage financial development, which, in turn, has a positive impact on growth.[12] Contract enforcement is also important, because it limits the scope for default among debtors and thus promotes compliance. Variables capturing these measures as they relate to the formal transfer of funds from savers to investors are included in the pillar.[13] Inadequate investor protection leads to a number of adverse effects, which can be detrimental to external financing and ultimately to the development of well-functioning capital markets.[14] Nevertheless, literature warns of over-regulating investor protection. Specifically, a study of the impact of investor protection regulation on corporate governance for a number of countries shows that stringent investor protection regulation carries either a neutral or negative effect on company performance.[15] In general, inadequate enforcement of financial contracts has been found to promote credit rationing, thus hindering the overall process of growth.[16]

Other important aspects of the institutional environment include a country's capital account openness and domestic financial sector liberalization. Financial liberalization generally permits a greater degree of financial depth, which translates into greater financial intermediation among savers and investors. This, in turn, increases the monetization of an economy, resulting in a more efficient flow of resources.[17] Empirically, however, capital account liberalization delivers mixed results. Several studies assert that capital account liberalization has no impact on growth, while others find a positive, and statistically significant, impact.[18] At the same time, other work asserts that the relationship is undetermined.

Given such ambiguity over the impact of capital account openness, it is best examined within the context of the legal environment. The better a country's legal and regulatory environment, the greater the benefits from capital account openness—and vice versa. Accordingly, within the Index, we try to capture the relationship between capital account openness and the level of legal and regulatory development, and have interacted the variables used to measure each (see Appendix A).

The presence of both a robust legal and regulatory system and capital account openness provides a positive indication of the financial development of a country. We have also interacted the capital account openness variable with the level of bond market development, because of research that asserts the importance of developing domestic bond markets in advance of full liberalization of the capital accounts.[19] Assessments of commitment to World Trade Organization (WTO) trade agreements related to financial services have also been included and interacted in a similar manner.

A comparable analysis can be extended to the degree of liberalization of the domestic financial sector. The degree of liberalization is based on whether a country exerts interest rate controls (either ceilings or floors), whether credit ceilings exist, and whether foreign currency deposits are allowed. In general, the better a country's legal and regulatory environment, the greater the impact of domestic financial sector liberalization on the country's economic growth. Variables representing each of these characteristics have been interacted. Research supports the importance of advanced legal systems and institutions to the financial sector, holding that the presence of such institutions is as vital as having both a developed banking sector and an equity market.[20]

Second pillar: Business environment

The second pillar focuses on the business environment and considers:

- the availability of human capital—that is, skilled workers who can be employed by the financial sector and thus provide efficient financial services;
- the state of physical capital—that is, the physical and technological infrastructure; and
- other aspects of the business environment, including taxation policy and the costs of doing business for financial intermediaries.

Facilitating the creation and improvement of human capital can assist economic growth.[21] Empirical evidence supports this observation and shows positive correlations between human capital and the degree of financial development.[22] Our proxies for the quality of human capital are related to the enrollment levels of tertiary education. We also include other measures that reflect the quality of human capital, such as the degree of staff training, the quality of management schools and math and science education, and the availability of research and training services.

An additional key area is infrastructure. We capture a basic measure of the quality of physical infrastructure, which enhances the process of private capital accumulation and financial depth by increasing the profitability of investment.[23] However, our analysis of infrastructure emphasizes measures of information and communication technologies, which are particularly important to those firms operating within a financial context because of their data-intensive nature.

Another integral aspect of the business environment is the cost of doing business in a country. Specifically, research has shown that the cost of doing business is a vital feature of the efficiency of financial institutions. The different costs of doing business are fundamental to assessing a country's business environment as well as the type of constraints that businesses may face.[24] A better business environment leads to better performance of financial institutions, which, in turn, results in a higher degree of financial development. Variables that capture the costs of doing business include the World Bank's measures of the cost of starting a business, the cost of registering property, and the cost of closing a business. Indirect and transaction costs are captured in variables such as time to start a business, time to register property, and time to close a business.

Our analysis considers taxes as another key constraint that businesses in the financial sector face. The variables in this subpillar focus on misrepresentative and burdensome tax policies. We have included a variable to capture high marginal tax rates, which have been found to have distortionary effects. As the academic literature is less clear about the effects of absolute rates of taxation and issues of data comparability, we have not included measures related to overall tax rates.

Finally, empirical evidence suggests that civic capital encompasses a positive economic payoff and can explain persistent differences in economic development between countries.[25] However, current data that capture levels of civic capital do not provide enough coverage of countries in the Index, and we are unable to include such a measure until coverage improves.

Third pillar: Financial stability

The third pillar addresses the stability of the financial system. The severe negative impact of financial instability on economic growth emerged sharply in the recent financial crisis, as well as in past financial crises. Such instability can lead to significant losses to investors, resulting in systemic banking and corporate crises, currency crises, and sovereign debt crises. The third pillar captures the risk of these three types of crises.

For the risk of currency crises, we include the change in real effective exchange rate, the current account balance, a dollarization vulnerability indicator, an external vulnerability indicator, external debt to GDP, and net international investment

position. We apply variables relating to external debt to GDP and net international investment position specifically to developing and developed countries, respectively.

The systemic banking crises subpillar combines measures of historic banking system instability, an assessment of aggregate balance sheet strength, and measures of the presence of real estate "bubbles," as a study finds that "turbulence in the real estate market directly affects the stability of the banking system."[26] Historic instability is captured in a measure of the frequency of banking crises since the 1970s; more recent banking crises are given greater weight. Empirical research has shown that countries that have gone through systemic banking crises or endured a high degree of financial volatility are more susceptible to profound short-term negative impacts on the degree of financial intermediation.[27] We also capture the degree of economic output loss associated with crises, weighting output loss from more recent crises more heavily. It is important that prudential regulation include uniform capital adequacy requirements, and accordingly we have included a measurement of Tier 1 capital in this subpillar.[28] Some research indicates that quantitative capital adequacy measures are not always accurate measures of the financial strength of banks in developing countries.[29] Accordingly, we have included a financial strength indicator that balances quantitative measures of balance-sheet strength with qualitative assessments of banks' abilities to meet their obligations to depositors and creditors. A measure of share of government bond holdings by domestic banks would also be valuable. However, because cross-country data are limited, we are unable to incorporate this measure into the Index.

The last type of crisis captured within the financial stability pillar is sovereign debt crisis. Manageability of public debt, defined as total public debt as a percent of GDP, is included in this pillar. The ability of countries to pay this debt in full and in a timely manner is captured in sovereign credit ratings, an important proxy for the risk of a crisis. In particular, these variables increase in importance along with the transfer of debt from the private sector to the public sector. These data were calculated as an average of both local currency sovereign credit ratings and foreign currency sovereign credit ratings. A high sovereign credit rating signifies less likelihood of default occasioned by a sovereign debt crisis. Credit default swaps provide a quantitative, market-based indicator of the ability of a country to repay its debt. In addition, we include macroeconomic measures, such as inflation and GDP growth, as these influence the ability of countries to service their debt.

The greater the risk of these crises, the greater the likelihood that the various processes of financial intermediation will be hampered, precipitating lower economic growth rates. However, the effects of financial stability on economic growth can be considered in terms of a trade-off between risk and innovation/return, and many theories support the view that financial innovation drives the financial system toward greater economic efficiency.[30] A financial system that is heavily regulated may be very stable and never spark a financial crisis, but such a controlled system would hamper the financial development and innovation that increases returns, diversifies risks, and allocates resources to the highest-return investments. Conversely, a financial system that is free and innovative, and very lightly regulated, may eventually become unstable by triggering unsustainable credit booms and asset bubbles that can severely affect growth, returns, and welfare. Nevertheless, although there is some trade-off between the stability of the financial system and its degree of innovation and sophistication, financial stability remains an important input in the process of financial development.

Financial intermediaries and markets

The second category of pillars measures the degree of development of the financial sector, as expressed in the different types of intermediaries. These three pillars are banking financial services, non-banking financial services (e.g., investment banks and insurance firms), and financial markets.

Consensus exists on the positive relationship between the size and depth of the financial system and the supply and robustness of financial services that are important contributors to economic growth.[31] The size of financial markets (total financial assets within a country) is an important determinant of savings and investment.[32] Moreover, the larger a financial system, the greater its ability to benefit from economies of scale, given the significant fixed costs prevailing in financial intermediaries' activities. A larger financial system tends to relieve credit constraints, facilitating borrowing by firms and further improving the process of savings mobilization and the channelling of savings to investors. Given that a large financial system should allocate capital efficiently and better monitor the use of funds, improved access to financing will tend to amplify the resilience of an economy to shocks.

The depth (total financial assets as a percent of GDP) of a financial system is an important component of financial development, as it contributes to economic growth rates across countries.[33] Measures of size and depth have been included in each of the three financial intermediation pillars.

Fourth pillar: Banking financial services

Although the third pillar captures some of the negative impact that an unstable banking system can have on an economy, banks also play a vital role in supporting economic growth.

This role is captured in the fourth pillar. Bank-based financial systems emerge to improve acquisition of financial information and to lower transaction costs, as well as to allocate credit more efficiently, which is particularly important in developing economies.

The efficient allocation of capital in a financial system generally occurs through bank-based systems or market-based financial systems.[34] Some research asserts that banks finance growth more effectively and efficiently than market-based systems, particularly in underdeveloped economies, where non-bank financial intermediaries are generally less sophisticated.[35] Research also shows that, compared with other forms of financial intermediation, well-established banks form stronger ties with the private sector, a relationship that enables them to acquire information about firms more efficiently and to persuade firms to pay their debts in a more timely manner.[36] Advocates of bank-based systems argue that banks that are unimpeded by regulatory restrictions tend to benefit from economies of scale in the process of collecting information and can thus enhance industrial growth. Banks are also key players in eradicating liquidity risk, which causes them to increase investment in high-return, illiquid assets and speed up the process of economic growth.[37] One of the key measures of the efficacy of the banking system captured in this pillar is size. The larger the banking system, the more capital it can channel from savers to investors. This enhances financial development, which in turn leads to greater economic growth. Currently, we are witnessing growth across many emerging-market banks. Box 2 and subsequent Chapter 1.3 discuss this in more detail. Measures of size include deposit money bank assets to GDP, M2 to GDP, and private credit to GDP.

Another key aspect of the banking system is its efficiency. Direct measures of efficiency captured in the Index are aggregate operating ratios, such as bank operating costs to assets and the ratio of non-performing loans to total loans. An indirect measure of efficiency is public ownership. Publicly owned banks tend to be less efficient, impeding credit allocation and the channelling of capital, and thus slowing financial intermediation. Recent literature suggests that banking sector development has significant and positive effects on firm innovation in countries with lower government ownership of banks, but insignificant and sometimes even significantly negative effects in countries with higher government ownership of banks.[38]

Measures of operating efficiency may provide an incomplete picture of the efficacy of the banking system if it is not profitable. Accordingly, we also include an aggregate measure of bank profitability. At the same time, if banks are highly profitable while

Box 2: Branching out: The rise of emerging market banks

Please see Chapter 1.3 by Neeltje van Horen for a full discussion of this topic.

The global financial crisis and subsequent sovereign debt crisis have left many banks in advanced economies teetering on the brink of collapse. In emerging markets, on the other hand, banks have not only weathered the storm, but even thrived—many emerging market banks have vaulted up the global size rankings. China's ICBC is the world's biggest bank in terms of market value, and seven additional emerging market banks from China, Brazil, and Russia are among the top 25 banking financial institutions. This impressive rise is further validated by the fact that, as recently as 2005, no emerging market bank was in the list of top 25 largest institutions by market capitalization.

The expansion of emerging market banks has not been confined to domestic markets. Rather, emerging market investment in foreign banks has grown, in terms of both number of host countries and number of investors. From 1995 to 2009, the number of emerging markets that pursued banking activities in other countries increased from 45 to 60. Low-income countries are the primary investment locale for emerging market banks, and as of 2009, South Africa, Russia, Turkey, and Brazil were the most active investors, owning 31, 29, 21, and 17 foreign banks, respectively.

Whereas banks from advanced economies continue to seek expansion opportunities at the global level, emerging market banks tend to invest in smaller, less-developed countries within their own region. This trend is highlighted by the fact that 80 percent of investments from emerging market banks are within their own region. This regional effect may be due to the competitive advantage that emerging market banks have in working in institutionally weak and politically tumultuous environments.

Although the recent financial turmoil has put the global banking system in an increasingly precarious position, emerging market banks find themselves poised to capitalize on this uncertain environment. Domestically, emerging market banks will benefit from a large unbanked population, as well as the strong credit demand that is needed to finance economic growth. Banks from emerging markets are also expected to play a more active role as foreign investors, particularly within their own geographical regions. The expansion of emerging market banks at both the domestic and regional levels will likely represent a considerable shift as banks from advanced economies are forced to make structural adjustments in order to adhere to the rules imposed by international and domestic regulators.

performing poorly in the operating measures, then this may indicate a lack of competition along with high undue inefficiency.

A third key aspect of the efficacy of the banking system is the role of financial information disclosure within the operation of banks. Policies that induce correct information disclosure, authorize private-sector corporate control of banks, and motivate private agents to exercise corporate control, tend to encourage bank development, operational efficiency, and stability.[39] However, due to limited cross-country data availability, we are not able to include variables that capture this. On the other hand, cross-country data are available for the coverage of private credit bureaus and public credit registries, so we include these measures in the financial information disclosure subpillar.

Fifth pillar: Non-banking financial services

Non-bank financial intermediaries—such as broker-dealers, traditional asset managers, alternative asset managers, and insurance companies—can be both an important complement to banks and a potential substitute for them. Their complementary role lies in their efforts to fill any vacuum created by commercial banks. Their competition with banks allows both parties to operate more efficiently in meeting market needs. Activities of non-bank financial intermediaries include their participation in securities markets as well as the mobilization and allocation of financial resources of a longer-term nature—for example, in insurance activities. Because of inadequate regulation and oversight, certain non-banking financial services, such as securitization, played a detrimental role in the recent financial crisis as part of the so-called shadow banking system. However, within the context of a sound legal and regulatory framework, such services fulfill a unique and vital role as financial intermediaries.

The degree of development of non-bank financial intermediaries is a good proxy for a country's overall level of financial development.[40] Empirical research has found that both banks and non-bank financial intermediaries are larger, more active, and more efficient in developed economies.[41] Advocates of the market-based system (i.e., non-banks) point to the fact that non-bank financial intermediaries are able to finance innovative and high-risk projects.[42] There are three main areas of non-bank financing activity that we capture in the Index: initial public offerings (IPO), mergers and acquisitions (M&A), and securitization.

Additionally, we include a number of variables on the insurance sector, which can facilitate trade and commerce by providing ample liability coverage. Recent empirical research has found a strong positive relationship between insurance sector development and economic growth; this relationship holds quite strongly even in developing countries.[43] Insurance also creates liquidity and facilitates the process of building economies of scale in investment, thereby improving overall financial efficiency.[44]

Sixth pillar: Financial markets

Recent literature finds that, as economies develop, they increase their demand for the services provided by financial markets relative to those provided by banks, so that financial markets become comparatively more important as economies grow.[45] The four major types of financial markets include bond markets (for both government and corporate bonds), stock markets where equities are traded, foreign exchange markets, and derivatives markets.

Stock market liquidity has a significant positive impact on capital accumulation, productivity growth, and current and future rates of economic growth.[46] More generally, economic theory suggests that stock markets encourage long-term growth by promoting specialization, acquiring and disseminating information, and mobilizing savings efficiently to promote investment.[47] Research also shows that, as countries become wealthier, stock markets become more active and efficient relative to banks.[48] Despite bond markets having received little empirical attention, some research shows that they play an important role in financial development and the effective allocation of capital.[49]

Derivatives markets are an important aspect of this pillar because they can significantly improve risk management and risk diversification. More developed derivatives markets can enhance the confidence of international investors and financial institutions and encourage these agents to participate in these markets. Derivatives markets are generally small in emerging markets. A stronger legal and regulatory environment can enhance the development of such markets.[50]

Financial access

This third and final category is comprised of one pillar that represents measures of access to capital and financial services.

Seventh pillar: Financial access

The measures represented in this last pillar span areas of access to capital through both commercial and retail channels. Empirically, greater access to financial services is associated with the usual proxies for financial development and the resulting economic growth.[51] The presence of financial services *per se*, as reflected by size and depth, does not necessarily imply that different types of users within an economy have access to them. Thus, it is access that is integral to our analysis.

In light of the different channels—and issues—associated with commercial and retail access, we separate our measures within this pillar accordingly. Commercial access includes measures such as access to venture capital, commercial loans, and local equity markets. Retail access includes measures such as access to microfinance and the penetration of bank accounts and ATMs.

The importance of financial access for small- and medium-sized enterprises (SMEs), which are critical in driving economic growth in many countries, has recently been highlighted by organizations such as the G-20. Depending on how they are defined (and they are defined differently in various countries), SMEs can have financial needs related to both retail and commercial access. There is a shortage of global data related to SME finance. However, the G-20 and other multilateral organizations have highlighted the need to provide SMEs with access to financing, and we will incorporate new data into the Index when they become available.

Access to financial services by end users is influenced by the performance of other pillars. Accessibility, along with the size and depth of the entire financial system as captured in the previous pillars, has a significant effect on a country's real activity, economic growth, and overall welfare.

Adjustments to the Financial Development Index this year

The overall structure of the Financial Development Index remains the same as in last year's *Report*. There are still seven pillars in the Index, with the same associated subpillars. Each of these subpillars contains the constituent variables that make up the Index. Appendix A lays out the complete structure and methodological detail of the Index.

We have made some changes to the Index this year at the indicator level. We removed the centralization of economic policymaking indicator and the financial stress index from the legal and regulatory issues and banking system stability subpillars, respectively. In the case of centralization of economic policymaking, the indicator is no longer available. As for the Financial Stress Index, we believe that it does not reflect issues in the banking sector, since it focuses mostly on stress in securities markets and exchange rates.

Because the quality of telephone infrastructure variable is no longer available, we have replaced it with quality of electricity supply. In addition, the Internet users' indicator in the infrastructure subpillar has changed from fixed (wired) Internet subscriptions per 100 inhabitants to percent of individuals using the Internet. Last, we have replaced and added some new variables in the retail access subpillar in order to capture not only the availability of financial services but also the usage:

- The market penetration of bank accounts indicator has changed from the number of commercial bank accounts per 100,000 adults to the percent of the population (15 years or older) with an account at a formal financial institution;
- The total number of point-of-sale (POS) devices indicator was replaced with debit card penetration (the percent of respondents with a debit card); and
- A loan from a financial institution indicator (percent of respondents who have borrowed from a financial institution in the past year) was added.

We have incorporated some title changes in the insurance subpillar to reflect the common understanding of the variables we use:

- Indicator 5.07 has changed from life insurance density to life insurance penetration;
- Indicator 5.08 has changed from non-life insurance density to non-life insurance penetration;
- Indicator 5.10 has changed from life insurance coverage to life insurance density; and
- Indicator 5.11 has changed from non-life insurance coverage to non-life insurance density.

The calculation of credit default swap spreads has been slightly modified and now uses the average of annual daily spot rates to reflect some of the price volatility throughout the year.

"A New Database on Financial Development and Structure" by Beck et al. will now be updated as part of the World Bank's Global Financial Development Database. The following indicators are now sourced from this database:

Pillar 4: Banking financial services

- (4.01) Deposit money bank assets to GDP
- (4.02) Central bank assets to GDP
- (4.03) Financial system deposits to GDP
- (4.05) Private credit to GDP
- (4.06) Bank deposits to GDP
- (4.08) Aggregate profitability indicator
- (4.09) Bank overhead costs

Pillar 6: Financial markets

- (6.09) Stock market turnover ratio
- (6.10) Stock market capitalization to GDP
- (6.11) Stock market value traded to GDP
- (6.12) Number of listed companies per 10,000 people

The coverage of this year's *Report* has increased from 60 to 62 economies. This change will lower the year-on-year ranks of countries that score below the newly covered countries. These countries are Kenya, Greece, and Portugal. Tunisia, which was covered in last year's *Report*, is excluded because an important structural break in the Executive Opinion data makes comparisons with previous years difficult. Although we did not report the results this year, we hope to include Tunisia again in the future.

The Financial Development Index 2012 rankings

The overall rankings and scores for this year's *Financial Development Report* can be seen in Table 1, along with the 2011 ranking, the Index score, and the change in score from last year. In addition, this year's pillar results can be found in Table 2. Looking broadly across the results for the 62 countries covered in the Index, we see some general trends emerge.

Overall trends in 2012 rankings

There has been minimal change within the top-ranked countries of the Index. The rank of the top six countries remains unchanged, while Japan (7th), Switzerland (8th), and Sweden (10th) all move up one spot. The most movement can be seen in the two-rank drop of the Netherlands, from 7th to 9th. Norway (13th) fell three spots, which allowed Sweden to enter the top 10.

This year's relative movement in rank, as measured by the standard deviation of year-over-year rank changes, is smaller than in any other year since the *Report* was first published. This is consistent with the notion that the *Report* provides only a snapshot of where financial systems currently are in what is sure to be a long recovery process.

In Figure 2, which provides an overview of the pillar and subpillar analysis, dark-shaded areas have higher movement in rank than lightly-shaded areas. At the pillar level, the institutional environment, business environment, and non-banking financial services pillars exhibit lower rank movement relative to prior years. Conversely, the financial stability, banking financial services, financial markets, and financial access pillars show greater movement in rank compared with previous years. The subpillar analysis highlights some of the areas that are driving these changes. In many cases, changes in subpillar rank are due to movement in the underlying data. However, other changes may be a result of adjustments to the methodology of this year's Index. Therefore, a closer examination of the subpillars, as well as the underlying indicators within each pillar that has seen higher relative movements, will prove informative.

Table 1: The Financial Development Index 2012 rankings: Comparison with 2011

COUNTRY/ECONOMY	2012 RANK	2011 RANK	2012 SCORE (1–7)	CHANGE IN SCORE
Hong Kong SAR	1	1	5.31	+0.15
United States	2	2	5.27	+0.12
United Kingdom	3	3	5.21	+0.21
Singapore	4	4	5.10	+0.14
Australia	5	5	5.01	+0.08
Canada	6	6	5.00	+0.14
Japan	7	8	4.90	+0.19
Switzerland	8	9	4.78	+0.15
Netherlands	9	7	4.73	+0.02
Sweden	10	11	4.71	+0.20
Germany	11	14	4.61	+0.28
Denmark	12	15	4.53	+0.22
Norway	13	10	4.52	+0.01
France	14	12	4.43	-0.01
Korea, Rep.	15	18	4.42	+0.29
Belgium	16	13	4.30	-0.08
Finland	17	21	4.24	+0.13
Malaysia	18	16	4.24	-0.01
Spain	19	17	4.22	-0.02
Ireland	20	22	4.14	+0.04
Kuwait	21	28	4.03	+0.31
Austria	22	20	4.01	-0.10
China	23	19	4.00	-0.12
Israel	24	26	3.94	+0.07
Bahrain	25	24	3.93	+0.04
United Arab Emirates	26	25	3.84	-0.05
Portugal	27	n/a	3.76	n/a
South Africa	28	29	3.71	+0.08
Chile	29	31	3.69	+0.08
Italy	30	27	3.69	-0.16
Saudi Arabia	31	23	3.68	-0.22
Brazil	32	30	3.61	-0.00
Jordan	33	32	3.56	+0.08
Thailand	34	35	3.55	+0.22
Czech Republic	35	34	3.49	+0.08
Panama	36	37	3.42	+0.19
Poland	37	33	3.41	-0.05
Slovak Republic	38	38	3.34	+0.12
Russian Federation	39	39	3.30	+0.12
India	40	36	3.29	-0.00
Peru	41	40	3.28	+0.12
Turkey	42	43	3.27	+0.13
Mexico	43	41	3.25	+0.09
Hungary	44	47	3.16	+0.13
Morocco	45	42	3.15	-0.00
Colombia	46	45	3.15	+0.06
Kazakhstan	47	46	3.13	+0.06
Greece	48	n/a	3.12	n/a
Philippines	49	44	3.12	-0.00
Indonesia	50	51	2.95	+0.03
Romania	51	52	2.93	+0.08
Vietnam	52	50	2.92	-0.05
Egypt	53	49	2.78	-0.22
Kenya	54	n/a	2.75	n/a
Argentina	55	53	2.68	-0.01
Ghana	56	58	2.67	+0.12
Bangladesh	57	56	2.62	+0.04
Pakistan	58	55	2.61	+0.03
Ukraine	59	54	2.56	-0.06
Tanzania	60	57	2.55	-0.00
Nigeria	61	60	2.46	+0.03
Venezuela	62	59	2.37	-0.07

Table 2: Financial Development Index 2012

OVERALL INDEX			FACTORS, POLICIES, AND INSTITUTIONS								
			1st pillar: Institutional environment			2nd pillar: Business environment			3rd pillar: Financial stability		
COUNTRY/ECONOMY	RANK	SCORE	COUNTRY/ECONOMY	RANK	SCORE	COUNTRY/ECONOMY	RANK	SCORE	COUNTRY/ECONOMY	RANK	SCORE
Hong Kong SAR	1	5.31	Singapore	1	6.24	Singapore	1	6.03	Saudi Arabia	1	6.11
United States	2	5.27	United Kingdom	2	6.00	Hong Kong SAR	2	6.03	Switzerland	2	5.99
United Kingdom	3	5.21	Norway	3	5.98	Denmark	3	5.89	Singapore	3	5.67
Singapore	4	5.10	Sweden	4	5.94	Finland	4	5.88	United Arab Emirates	4	5.58
Australia	5	5.01	Finland	5	5.93	Norway	5	5.88	Tanzania	5	5.51
Canada	6	5.00	Canada	6	5.90	Switzerland	6	5.85	Norway	6	5.44
Japan	7	4.90	Netherlands	7	5.90	Netherlands	7	5.83	Chile	7	5.35
Switzerland	8	4.78	Denmark	8	5.85	United Kingdom	8	5.75	Hong Kong SAR	8	5.35
Netherlands	9	4.73	Hong Kong SAR	9	5.77	Canada	9	5.72	Australia	9	5.26
Sweden	10	4.71	Germany	10	5.75	Sweden	10	5.64	Malaysia	10	5.24
Germany	11	4.61	Ireland	11	5.74	Germany	11	5.61	Czech Republic	11	5.19
Denmark	12	4.53	Switzerland	12	5.69	Australia	12	5.60	Kuwait	12	5.13
Norway	13	4.52	United States	13	5.65	United States	13	5.58	Canada	13	5.06
France	14	4.43	Belgium	14	5.62	Ireland	14	5.46	Mexico	14	5.05
Korea, Rep.	15	4.42	Japan	15	5.58	Korea, Rep.	15	5.41	Peru	15	5.04
Belgium	16	4.30	Austria	16	5.57	Bahrain	16	5.35	Netherlands	16	4.98
Finland	17	4.24	France	17	5.49	Saudi Arabia	17	5.29	South Africa	17	4.94
Malaysia	18	4.24	Australia	18	5.48	Austria	18	5.28	Germany	18	4.93
Spain	19	4.22	Israel	19	5.17	Japan	19	5.27	Japan	19	4.93
Ireland	20	4.14	Bahrain	20	5.17	United Arab Emirates	20	5.18	China	20	4.89
Kuwait	21	4.03	Malaysia	21	5.12	Belgium	21	5.16	Denmark	21	4.84
Austria	22	4.01	Portugal	22	5.01	France	22	5.12	Finland	22	4.82
China	23	4.00	United Arab Emirates	23	4.94	Portugal	23	4.93	Slovak Republic	23	4.82
Israel	24	3.94	Spain	24	4.93	Chile	24	4.89	Brazil	24	4.82
Bahrain	25	3.93	South Africa	25	4.74	Malaysia	25	4.85	Sweden	25	4.79
United Arab Emirates	26	3.84	Chile	26	4.60	Hungary	26	4.71	Israel	26	4.70
Portugal	27	3.76	Hungary	27	4.53	Kuwait	27	4.68	Belgium	27	4.56
South Africa	28	3.71	Saudi Arabia	28	4.42	Spain	28	4.67	Colombia	28	4.52
Chile	29	3.69	Jordan	29	4.42	Italy	29	4.64	Panama	29	4.47
Italy	30	3.69	Greece	30	4.35	Kazakhstan	30	4.61	Bahrain	30	4.47
Saudi Arabia	31	3.68	Panama	31	4.28	Israel	31	4.60	Austria	31	4.42
Brazil	32	3.61	Italy	32	4.27	Russian Federation	32	4.50	Kazakhstan	32	4.41
Jordan	33	3.56	Thailand	33	4.22	Turkey	33	4.49	Ghana	33	4.40
Thailand	34	3.55	Korea, Rep.	34	4.18	Slovak Republic	34	4.43	Thailand	34	4.40
Czech Republic	35	3.49	China	35	4.10	Czech Republic	35	4.42	Indonesia	35	4.40
Panama	36	3.42	Poland	36	4.10	Poland	36	4.40	Nigeria	36	4.39
Poland	37	3.41	Turkey	37	4.09	Jordan	37	4.35	Bangladesh	37	4.36
Slovak Republic	38	3.34	Czech Republic	38	4.04	Panama	38	4.34	United States	38	4.36
Russian Federation	39	3.30	Philippines	39	3.94	Romania	39	4.33	Morocco	39	4.33
India	40	3.29	Slovak Republic	40	3.87	Greece	40	4.32	Poland	40	4.31
Peru	41	3.28	Kuwait	41	3.85	Colombia	41	4.32	Russian Federation	41	4.19
Turkey	42	3.27	Ghana	42	3.80	South Africa	42	4.31	France	42	4.18
Mexico	43	3.25	Romania	43	3.79	Peru	43	4.19	United Kingdom	43	4.12
Hungary	44	3.16	Mexico	44	3.78	Morocco	44	4.15	Korea, Rep.	44	4.08
Morocco	45	3.15	Peru	45	3.78	Thailand	45	4.14	Romania	45	4.05
Colombia	46	3.15	Brazil	46	3.72	Mexico	46	4.05	India	46	3.95
Kazakhstan	47	3.13	Kenya	47	3.65	China	47	3.95	Philippines	47	3.87
Greece	48	3.12	Nigeria	48	3.65	Ghana	48	3.78	Jordan	48	3.86
Philippines	49	3.12	Kazakhstan	49	3.59	Brazil	49	3.74	Egypt	49	3.80
Indonesia	50	2.95	Morocco	50	3.54	Argentina	50	3.68	Pakistan	50	3.78
Romania	51	2.93	Indonesia	51	3.46	Egypt	51	3.64	Italy	51	3.62
Vietnam	52	2.92	Colombia	52	3.46	Ukraine	52	3.57	Venezuela	52	3.58
Egypt	53	2.78	Vietnam	53	3.44	Indonesia	53	3.49	Ireland	53	3.54
Kenya	54	2.75	Egypt	54	3.31	Philippines	54	3.44	Kenya	54	3.49
Argentina	55	2.68	Argentina	55	3.22	India	55	3.39	Spain	55	3.37
Ghana	56	2.67	India	56	3.18	Vietnam	56	3.32	Vietnam	56	3.26
Bangladesh	57	2.62	Tanzania	57	3.14	Kenya	57	3.29	Hungary	57	3.24
Pakistan	58	2.61	Pakistan	58	3.10	Pakistan	58	3.15	Turkey	58	3.22
Ukraine	59	2.56	Russian Federation	59	3.06	Tanzania	59	3.05	Argentina	59	3.18
Tanzania	60	2.55	Ukraine	60	2.93	Nigeria	60	2.78	Ukraine	60	3.14
Nigeria	61	2.46	Bangladesh	61	2.47	Venezuela	61	2.77	Portugal	61	2.65
Venezuela	62	2.37	Venezuela	62	2.32	Bangladesh	62	2.68	Greece	62	2.14

Table 2: Financial Development Index 2012 (continued)

FINANCIAL INTERMEDIATION

4th pillar: Banking financial services

COUNTRY/ECONOMY	RANK	SCORE
Hong Kong SAR	1	6.15
United Kingdom	2	5.80
Japan	3	5.69
Netherlands	4	5.29
Spain	5	5.27
Norway	6	5.21
Australia	7	5.04
Sweden	8	5.03
Portugal	9	5.02
Singapore	10	4.78
Malaysia	11	4.71
Germany	12	4.69
Canada	13	4.60
Ireland	14	4.58
Belgium	15	4.57
Switzerland	16	4.46
China	17	4.43
Austria	18	4.41
France	19	4.39
Korea, Rep.	20	4.37
United States	21	4.28
Finland	22	4.27
Czech Republic	23	4.24
Panama	24	4.21
Denmark	25	4.19
Greece	26	4.19
Bahrain	27	4.18
Thailand	28	4.08
Italy	29	4.06
Israel	30	3.99
United Arab Emirates	31	3.87
Vietnam	32	3.87
Jordan	33	3.81
Morocco	34	3.66
Turkey	35	3.66
Brazil	36	3.55
Slovak Republic	37	3.53
South Africa	38	3.51
Saudi Arabia	39	3.45
Kuwait	40	3.43
Chile	41	3.38
Egypt	42	3.31
Mexico	43	3.25
Poland	44	3.17
India	45	3.14
Peru	46	3.07
Argentina	47	3.04
Colombia	48	3.02
Philippines	49	3.02
Bangladesh	50	3.00
Hungary	51	2.91
Romania	52	2.88
Indonesia	53	2.82
Pakistan	54	2.79
Kazakhstan	55	2.54
Venezuela	56	2.48
Kenya	57	2.48
Russian Federation	58	2.37
Ukraine	59	2.30
Ghana	60	1.89
Tanzania	61	1.88
Nigeria	62	1.79

5th pillar: Non-banking financial services

COUNTRY/ECONOMY	RANK	SCORE
United States	1	6.11
Korea, Rep.	2	5.04
United Kingdom	3	4.85
China	4	4.48
Australia	5	4.35
Japan	6	4.32
Canada	7	4.24
Russian Federation	8	4.09
India	9	3.94
Hong Kong SAR	10	3.76
Brazil	11	3.60
Singapore	12	3.44
Netherlands	13	3.28
Malaysia	14	3.23
Switzerland	15	3.12
Germany	16	3.06
France	17	2.85
Spain	18	2.82
Ireland	19	2.70
Poland	20	2.68
Philippines	21	2.68
South Africa	22	2.45
Indonesia	23	2.38
Italy	24	2.38
Norway	25	2.23
Jordan	26	2.19
Denmark	27	2.19
Kazakhstan	28	2.15
Argentina	29	2.14
Kenya	30	2.14
Chile	31	2.09
Sweden	32	2.07
Mexico	33	2.03
Ukraine	34	1.95
Belgium	35	1.95
Israel	36	1.94
Colombia	37	1.93
Panama	38	1.89
Morocco	39	1.84
Venezuela	40	1.82
Kuwait	41	1.78
Thailand	42	1.77
Bahrain	43	1.77
Portugal	44	1.74
Turkey	45	1.70
Peru	46	1.69
Austria	47	1.62
United Arab Emirates	48	1.61
Finland	49	1.60
Czech Republic	50	1.56
Vietnam	51	1.53
Slovak Republic	52	1.47
Saudi Arabia	53	1.43
Hungary	54	1.38
Pakistan	55	1.35
Egypt	56	1.31
Greece	57	1.29
Nigeria	58	1.19
Romania	59	1.19
Bangladesh	60	1.17
Ghana	61	1.13
Tanzania	62	1.01

6th pillar: Financial markets

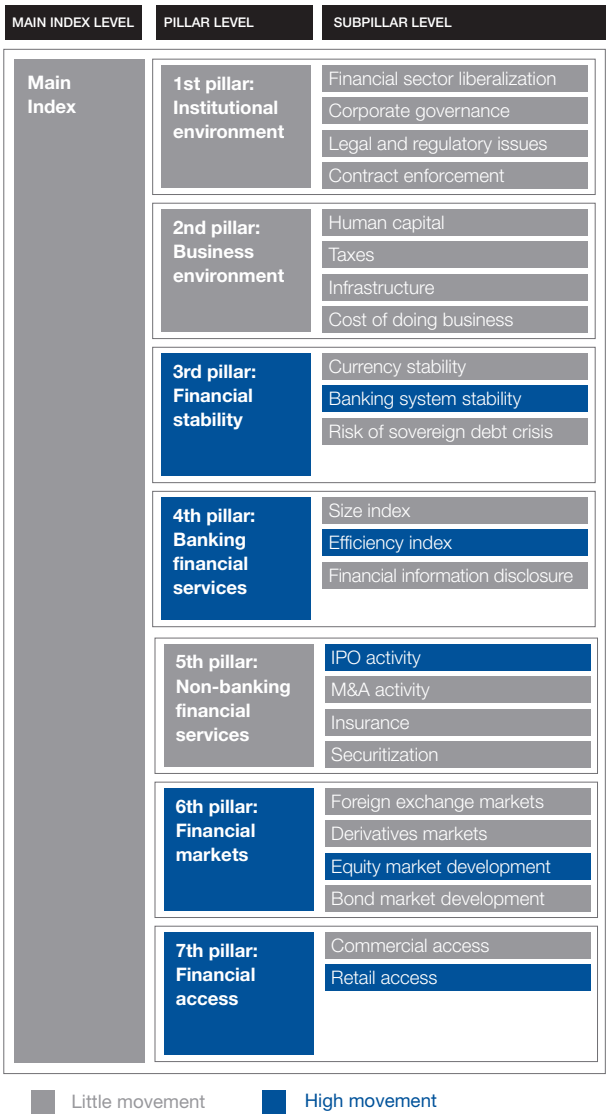
COUNTRY/ECONOMY	RANK	SCORE
United States	1	5.86
United Kingdom	2	5.44
Singapore	3	5.11
Hong Kong SAR	4	5.04
Japan	5	4.71
Kuwait	6	4.63
Switzerland	7	4.37
Australia	8	4.37
Spain	9	4.33
Canada	10	4.27
France	11	4.26
Denmark	12	3.97
Germany	13	3.80
Korea, Rep.	14	3.78
Sweden	15	3.77
Jordan	16	3.52
Netherlands	17	3.41
Italy	18	3.38
Belgium	19	3.15
Israel	20	3.00
China	21	2.98
Austria	22	2.80
Ireland	23	2.79
Malaysia	24	2.71
South Africa	25	2.67
Norway	26	2.61
Portugal	27	2.57
India	28	2.48
Greece	29	2.45
Turkey	30	2.39
Finland	31	2.39
Brazil	32	2.37
Thailand	33	2.27
Philippines	34	2.18
Russian Federation	35	2.05
Hungary	36	2.03
Vietnam	37	1.99
Pakistan	38	1.97
Egypt	39	1.94
Chile	40	1.92
Bangladesh	41	1.83
Saudi Arabia	42	1.76
Poland	43	1.75
Kazakhstan	44	1.69
Morocco	45	1.64
Mexico	46	1.64
United Arab Emirates	47	1.63
Bahrain	48	1.61
Slovak Republic	49	1.54
Colombia	50	1.45
Romania	51	1.43
Czech Republic	52	1.41
Ukraine	53	1.40
Indonesia	54	1.39
Peru	55	1.38
Kenya	56	1.37
Venezuela	57	1.35
Panama	58	1.33
Argentina	59	1.27
Nigeria	60	1.13
Ghana	61	1.01
Tanzania	62	1.00

FINANCIAL ACCESS

7th pillar: Financial access

COUNTRY/ECONOMY	RANK	SCORE
Sweden	1	5.73
Canada	2	5.21
Belgium	3	5.09
Hong Kong SAR	4	5.08
United States	5	5.06
Australia	6	5.00
Bahrain	7	4.99
Finland	8	4.80
Denmark	9	4.75
Kuwait	10	4.73
France	11	4.69
United Kingdom	12	4.51
Netherlands	13	4.46
Singapore	14	4.45
Portugal	15	4.41
Germany	16	4.40
Norway	17	4.31
Ireland	18	4.18
Israel	19	4.17
Spain	20	4.15
United Arab Emirates	21	4.09
Korea, Rep.	22	4.06
Austria	23	3.98
Switzerland	24	3.97
Thailand	25	3.94
Peru	26	3.82
Japan	27	3.81
Malaysia	28	3.79
Slovak Republic	29	3.74
Chile	30	3.59
Czech Republic	31	3.55
Brazil	32	3.48
Italy	33	3.46
Poland	34	3.43
Panama	35	3.40
South Africa	36	3.39
Colombia	37	3.36
Hungary	38	3.33
Turkey	39	3.33
Saudi Arabia	40	3.29
China	41	3.15
Greece	42	3.12
Vietnam	43	3.06
Mexico	44	2.96
India	45	2.94
Morocco	46	2.92
Kazakhstan	47	2.89
Romania	48	2.86
Kenya	49	2.85
Russian Federation	50	2.83
Bangladesh	51	2.83
Jordan	52	2.77
Philippines	53	2.74
Indonesia	54	2.69
Ghana	55	2.67
Ukraine	56	2.66
Nigeria	57	2.33
Venezuela	58	2.28
Tanzania	59	2.24
Argentina	60	2.21
Pakistan	61	2.13
Egypt	62	2.11

Figure 2: Main Index, pillar and subpillar variation analysis results



Within the financial stability pillar, changes in rank can be observed across all of the subpillars. However, by far the most significant year-on-year movement in rank occurs in the banking system stability subpillar. Looking more closely at banking system stability, one can see year-on-year changes in two out of the five underlying indicators. First, Tier 1 capital ratios have improved; from 2011 to 2012, median Tier 1 capital ratios have risen 8.3 percent. This suggests that financial institutions are preparing for regulatory reform and strengthening their balance sheets. Second, the aggregate measure of real estate bubbles indicator experienced increases. As is the case with the Tier 1 capital ratio, over half the countries in the sample have seen an increase, albeit only a marginal one, with the median year-on-year change being 1.5 percent. Finally, removal of the Financial Stress Index, as discussed in more detail in the adjustments section, also contributes to some of the rank changes that can be found in this subpillar. For a more detailed look at the financial stability pillar results, as well as a discussion of the underlying dynamics of the linear ranking, please see Box 3.

The banking financial services pillar similarly portrays higher relative rank movement. The largest movements occur in the efficiency index, while financial information disclosure sees the least change. Within the efficiency index subpillar, the largest improvement is in the non-performing bank loans to total loans indicator, with a median year-over-year increase of 8 percent, and with an increase in more than 60 percent of countries covered in the sample. In light of efforts to recover from the recent crisis, this improvement may be a step forward, as “bad” loans are being churned off balance sheets. In contrast, other indicators in the subpillar have experienced only marginal changes. For instance, the public ownership of banks indicator has seen a decline of 1.7 percent, suggesting that there has been an increase in public bank ownership. The indicator is evenly split between countries that have improved, declined, and experienced no change. One can also observe a slight increase (year-on-year median change of approximately 1 percent) in both bank overhead costs and bank operating costs to assets, possibly hinting at an improvement in the efficiency of banks, albeit still at a very low level.

The largest movement in rank across the four subpillars constituting the financial markets pillar appears in the equity market development subpillar. Although the other subpillars also show changes in rank, they are marginal in comparison. Three of the four indicators within the equity market development subpillar either increase or decrease by a median of nearly 20 percent year-over-year. Whereas the stock market turnover ratio and stock market value traded to GDP indicators both see approximately 70 percent of countries in our sample decline, the stock market capitalization to GDP indicator sees just over 70 percent of countries in the sample increase. The fourth indicator, number of listed companies per 10,000 people, also shows nearly 70 percent of countries decreasing, although on a smaller scale (a median year-on-year decline of 1.8 percent).

Within the financial access pillar, the largest changes in rank can be seen in the retail access subpillar. This is not surprising, given that this year’s Index includes a number of new indicators (please see the adjustments section earlier in the chapter for more detail). Therefore, the high degree of movement across ranks is driven more by methodological changes than changes in the underlying data.

Pillar five, non-banking financial services, proves to be an exception among the seven pillars. Although this pillar shows lower rank movement relative to previous years, one of its

Box 3: A closer look at financial stability

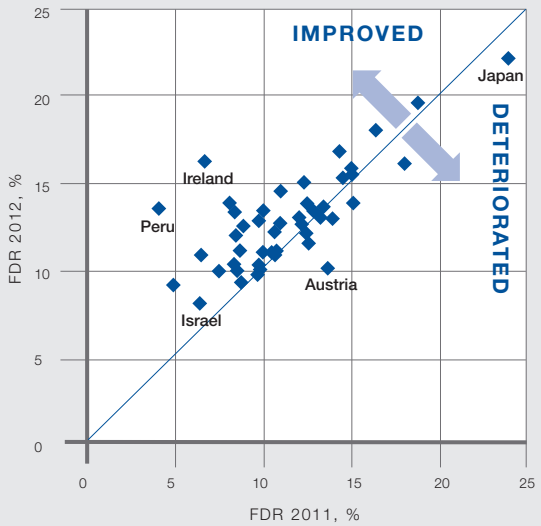
By Michael Drexler

Financial stability has featured prominently in the debate about financial development for quite some time, and this has certainly been reinforced by the recent crisis and subsequent events. It is therefore only appropriate to discuss some of the aspects of the financial stability pillar in more detail.

Some good news

Regulators around the world have focused sharply on improving banks' strength, and it shows. Only in two countries out of the sample did Tier 1 capital ratios for major banks decline in a meaningful way (i.e., more than 10 percent), and none of those declines led to a ratio below 10 percent. For comparison, before the crisis this ratio was around 6 percent for many developed markets. This is illustrated graphically in Figure 1, with some countries highlighted that either are outliers in the absolute ratio or have shown particularly large changes.

Figure 1: Tier 1 capital ratios for top 10 banks



Some of the outliers warrant a closer look. Japan's position is driven by an idiosyncrasy in its banking system—a large bank that primarily takes deposits and offers very little credit, therefore showing an exceptionally high capital buffer; the other major banks have Tier 1 ratios in line with the upper range of global averages.

While Ireland has made great strides in putting its banking system on sound footing, continued entanglement between sovereign debt and the European banking system means that even a Tier 1 capital buffer above 15 percent may not be sufficient against all future shocks. In that vein, the Austrian position reflects the other side of the coin—exposure to books that have failed to recover post-crisis, in this case particularly in Eastern Europe. Close observation is certainly appropriate in that case.

Israel is the only country that has capital ratios notably under 10 percent. Although it has seen an increase over the past year, policymakers should ensure that improvements continue so that no wrong signals are created in what is still a very volatile world.

Beyond banks and capital

When looking at the top-ranked countries in the financial stability pillar (see Figure 2), it is clear that a linear ranking does not do the underlying dynamics justice. Why would Saudi Arabia score higher than Switzerland? Or Chile rank above Canada? Surely there is more going on than the ranking scale gives away. The remainder of this section outlines some of the nuances that underpin those scores and alludes to some of the considerations that might help players in those markets and policymakers who want to improve stability in their country.

Figure 2: Top 10 financial stability scores

COUNTRY/ECONOMY	SCORE
Saudi Arabia	6.32
Switzerland	6.06
United Arab Emirates	5.86
Singapore	5.69
Norway	5.69
Chile	5.53
Hong Kong SAR	5.51
Australia	5.42
Malaysia	5.40
Canada	5.26

The financial stability score is a blended average of three subpillars: currency stability, banking system stability, and risk of sovereign debt crisis. This multivariate approach gives a better view of the dynamics underlying stability in a complex real world than those that focus on a single variable, however carefully constructed. It is clear that the current economic cycle offers a stability premium to resource-rich nations, with both currency stability and a strong fiscal position, which goes some way towards explaining the strong scores for Saudi Arabia, the United Arab Emirates, Norway, Australia, and, to some degree, Malaysia. It should be noted that currency movements in and by themselves do not correlate with financial stability in a linear fashion, as many smaller economies that have experienced episodic capital flows can attest.

However, other factors that are more under the control of policymakers also come into play. To highlight these factors, we segmented all countries covered by the *Financial Development Report* along a combination of the financial

Box 3: A closer look at financial stability (continued)

Figure 3: Classification of countries by degree of financial sector liberalization with financial stability score

CONSERVATIVE				TRANSITION		LIBERAL			
EARLY-STAGE FINANCIAL MARKETS		ADVANCING FINANCIAL MARKETS				EUROPEAN		NON-EUROPEAN	
Tanzania	5.17	Saudi Arabia	6.32	United Arab Emirates	5.86	Switzerland	6.06	Singapore	5.69
Peru	4.96	Mexico	5.19	Chile	5.53	Norway	5.69	Hong Kong SAR	5.51
Czech Republic	4.89	Brazil	4.98	Malaysia	5.40	Germany	5.13	Australia	5.42
Slovak Republic	4.89	Kazakhstan	4.51	Kuwait	5.25	Denmark	5.02	Canada	5.26
Indonesia	4.52	Poland	4.42	South Africa	5.12	Sweden	4.97	Japan	4.93
Colombia	4.47	Russian Federation	4.38	China	5.06	Netherlands	4.94	Israel	4.83
Nigeria	4.03	Bangladesh	4.37	Finland	4.99	Belgium	4.73	United States	4.41
Romania	4.00	Morocco	4.33	Panama	4.58	Austria	4.62	Jordan	4.04
Venezuela	3.58	India	4.12	Thailand	4.56	France	4.35		
Ghana	3.31	Pakistan	4.03	Bahrain	4.23	United Kingdom	4.31		
Argentina	3.18	Egypt	3.92	Korea, Rep.	4.20	Italy	3.73		
Ukraine	3.16	Vietnam	3.26	Philippines	4.06	Ireland	3.66		
Kenya	3.05			Hungary	3.37	Spain	3.57		
				Turkey	3.29	Portugal	2.85		
						Greece	2.14		

sector liberalization subpillar and the financial markets pillar. This combination measures both the freedom of the financial sector to innovate and the potential of that innovation to scale via developed markets. To the far left of the framework in Figure 3 are countries that have relatively early-stage financial markets (i.e., a 6th pillar score in the bottom quartile) and a conservative approach to the financial sector, with comparatively low liberalization scores. Such countries can still be comparatively stable, as in the case of Tanzania and Peru. At this stage of development, there are important trade-offs to be made in relation to external capital flows.[1]

Further along are countries that still have a conservative approach to the financial sector, but whose markets are more developed (i.e., a higher 6th pillar score). In many of those markets, the government plays a strong role, and they can be very stable, as evidenced by Saudi Arabia. Some of these countries have experienced significant crises in the past decades but have improved their financial systems since. As markets in this category often have sufficient scale to cope with external capital flows, policymakers need to consider at what stage they can further liberalize markets and grow the scaling potential of the local economy. Brazil is an interesting recent case in which the government initially liberalized but had to apply the brakes repeatedly through capital controls and market interventions.

The middle category sees markets that are considerably on their way to liberalization of the financial sector. These make up a more diverse group. The United Arab Emirates shows how a resource-backed economy combined with a strong central regulator can create a high stability score, despite recent upheaval in one of its emirates. Chile's evolution is frequently discussed in the literature. China's approach is different, with a high emphasis on central planning, but its sheer size and growth potential add to its stability outlook.

Among the countries with the highest degree of liberalization, we have separated out the European instances to emphasize the impact of the recent euro zone crisis. At the bottom of the stability list are the well-known peripheral economies, whose fate depends to some degree on a combination of their own structural reforms and German support. As evidenced by this group, once such a high degree of liberalization has been reached, fiscal sustainability becomes one of the key drivers of financial stability. But even in this category, capital flows cannot be overlooked, as the case of the Swiss currency over the recent year demonstrates.

Among non-European markets with the highest degree of liberalization, fiscal sustainability is again the key metric. The US position is largely explained by this fact, although it must be noted that the quantitative variables employed

Box 3: A closer look at financial stability (continued)

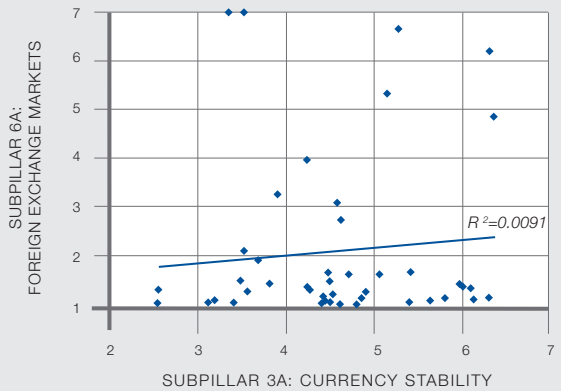
do not recognize the special position of the US dollar as the world's reserve currency and the associated benefits this brings with regards to debt issuance and currency stability. Thus, the stability ranking is likely lower than it would be if those factors were taken into account.

While this is a more nuanced view than a linear ranking, it still groups countries into relatively broad and simplistic categories. We should therefore be careful not to infer too much from a detailed comparison of liberalization that is based on *de jure* indicators which might not be borne out *de facto* in the same way in different countries. This is particularly true for countries in the advancing and transition categories, where the simple framework cannot adequately capture the complexity of real-world development paths in economies of dramatically varying sizes, models, and geographies.

No easy answers

The analysis shows that, at all levels of market liberalization, high stability scores can be achieved—but they come with trade-offs. A liberal market operates in a dynamic equilibrium that can be threatened by shocks, bubbles, and external speculative flows. A more conservatively run market suffers less from those perils (though it is not completely immune), but can hold back the access of the local economy to much-needed expansion capital.[2] Figure 4 illustrates clearly that there are no easy answers to such trade-offs. While more developed foreign exchange markets do coincide somewhat with higher currency stability, the overall correlation between these two variables is negligible. Markets can play a role in stabilizing a currency (or a financial system), but other factors are of at least equal importance.

Figure 4: Correlation between currency stability and foreign exchange market development



Whereas capital flows in their various guises and compositions are among the key metrics to watch in countries with less liberalized and scaled-up markets, fiscal sustainability and debt become ever more important for those countries with more liberal markets. Debt growth in significant excess of GDP has been identified as one of the key predictors for financial crises,[3] and derived stabilizers such as loan-to-value restrictions can be employed to great effect by policymakers. We will endeavor to include a related metric in future editions of the *Financial Development Report*.

Notes

1 For further discussion, see Davies and Drexler 2010 and De la Torre and Schmukler 2007.

2 Ranciere et al. 2008 find countries with occasional financial crises growing faster on average than those with completely stable conditions.

3 For an overview of the related literature, see Cihak et al. 2012.

Sources

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Davies, H. and M. Drexler. 2010. "Financial Development, Capital Flows, and Capital Controls." *Financial Development Report 2010*. 31-46.

De la Torre, A. and S. Schmukler. 2007. *Emerging Capital Markets and Globalization: The Latin American Experience*. Washington DC: World Bank.

Ranciere, R., A. Tornell, and F. Westermann. 2008. "Systemic Crises and Growth." *The Quarterly Journal of Economics* 123 (1): 359-406.

four subpillars, IPO activity, experiences substantial change. When taking a closer look at the underlying variables, one can observe median year-over-year declines of 11 and 14 percent in the IPO market share and share of world IPOs indicators, respectively. Moreover, nearly 60 percent of countries in the sample declined across both of these indicators over the past year. These decreases are not particularly surprising, since one would expect it to be quite difficult for companies to list in the lingering post-crisis environment. The third variable in the subpillar, IPO proceeds amount, differs from the other two IPO indicators in that median IPO proceeds increased slightly at 1.6 percent.

Pockets of improvement emerge across the Index, especially in the banking system, for example, in the Tier 1 capital ratio and non-performing loans to total loans indicators in the banking system stability and banking efficiency index subpillars, respectively. Nevertheless, as indicators across IPO activity and equity market development show, equity markets remain stressed. This is a matter of potential concern, given the current environment and the need for sustainable growth. Empirical evidence suggests that stock market liquidity is positively and significantly correlated with current and future rates of economic growth, capital accumulation, and productivity growth.[52]

Impact of the recent crisis on equity markets

The substantial movement across the majority of indicators underlying the IPO activity and equity market development subpillars warrants a closer examination of the variables over a multi-year period. Given the effects that IPO activity has on the overall equity market development indicators, we assess the IPO activity indicators in the context of changes to equity markets, rather than as isolated variables. Due to cross-country data availability, a small subset of our variables report numbers at a historic base year. This is the case for our equity market development indicators, which are reported with 2010 as the base year. However, given the dynamism of stock markets, we supplement our analysis with more current data from the World Federation of Exchanges.[53]

An overall analysis of the global equity market development and IPO activity indicators from 2006 to 2011 provides a general overview of how economies fared throughout the crisis. Figure 3 shows the results of three of the equity market development indicators: turnover velocity, domestic market capitalization to GDP, and value of shares trading to GDP. The most significant change occurred within the domestic market capitalization to GDP indicator, and the variable's largest year-on-year decline took place from 2007 to 2008. This drop, occasioned by the crisis, was driven by two factors, among others: (1) during the crisis, it was more difficult for private companies to list on the stock exchanges, as can be seen in the decline of number of companies listed (see Figure 4); and (2) valuations of shares declined (see value of shares trading to GDP in Figure 3), because many companies found themselves under strain. In line with expectations, domestic market capitalization recovered and increased from 2008 to 2009 and 2009 to 2010, before declining again from 2010 to 2011.

Figure 3: Equity market development indicators, median across country sample

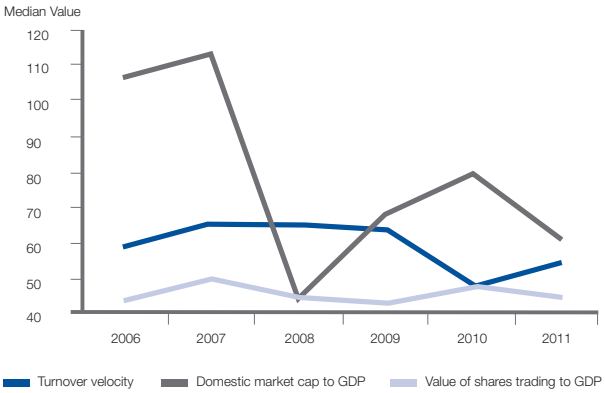
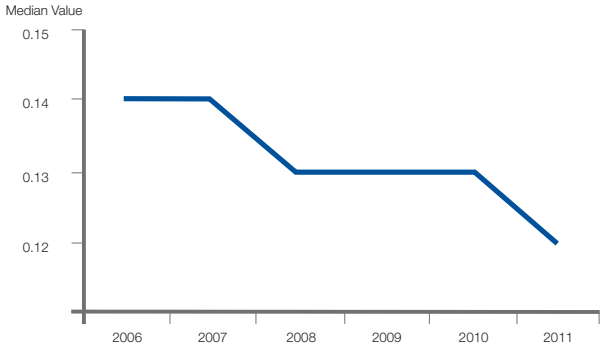


Figure 4: Number of listed companies per 10,000 people, median across country sample



Related to the number of companies listed and the value of shares trading are the IPO activity indicators, which are reported as a three-year average. The median for all three IPO indicators declined substantially from 2007-2009 to 2008-2010: 18 percent, 41 percent, and 49 percent for IPO market share, IPO proceeds amount, and share of world IPOs, respectively. Thus, not only the number of IPOs, but also the amount at which they are listed, declined.

Interestingly, the turnover velocity indicator remained steady until its decline in 2010 (see Figure 3). This suggests that liquidity was available throughout the crisis, reflecting the effect of some government support systems. Although the indicator drops in 2010, it rebounds in 2011 and moves closer to 2006 levels, possibly indicating that liquidity is stabilizing.

A regional dissection of equity market development and IPO activity indicators may prove valuable, given that reactions to the crisis differed across regions, affecting how they emerged. Figure 5 shows that domestic market capitalization to GDP has decreased across most regions, with the exception of Asia/Pacific, where it has seen a minor increase since 2006. A similar picture can be seen in the number of companies listed per 10,000 people, although the declines are smaller. Asia/Pacific is the only region that increased in this indicator over the past five years. While the value of shares trading to GDP has seen a drop in Europe, the Middle East and North Africa, and North America, the Asia/Pacific and Latin America regions have increased their value of shares trading. The Asia/Pacific region, in particular, has experienced a considerable increase of 25 percent. In terms of turnover velocity, Figure 5 shows a decline for Europe and Latin America, indicating that there may be lingering liquidity issues. In contrast, Asia/Pacific, the Middle East and North Africa, and North America have seen only a minor increase, which suggests that liquidity levels in 2006 and 2011 are at similar levels.

Figure 5: Equity market indicators across regions, median percent change, 2006-2011

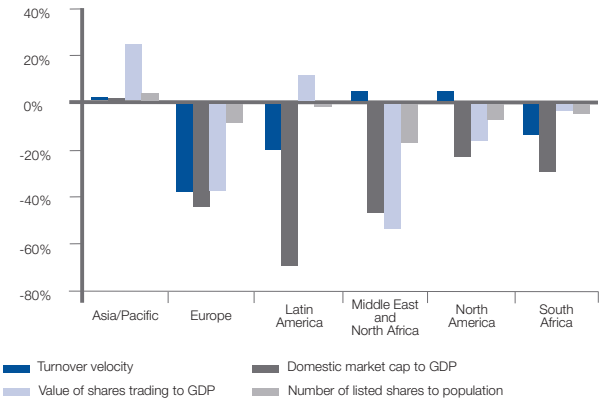
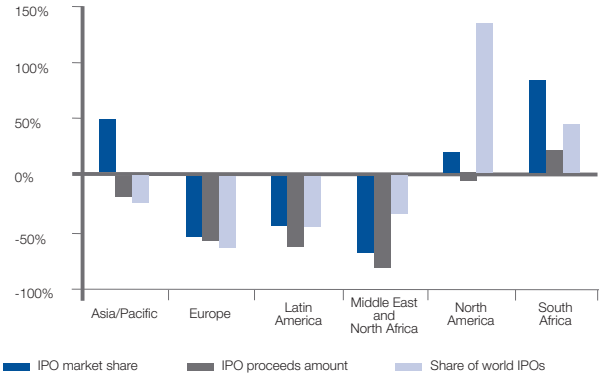


Figure 6 shows the IPO activity indicators at a regional level over the period from 2006-2008 to 2009-2011. It is apparent that some of the changes in the equity market development subpillar were influenced by the decline in IPO activity across Europe, Latin America, and the Middle East and North Africa. For Asia/Pacific, results are more mixed, as there is an increase in IPO market share but a decrease in IPO proceeds amount. This suggests that Asia/Pacific's decline in proceeds is less than the decline in many other regions, allowing the region to gain market share. North America also presents an interesting picture, as the positive values are driven by a spike in IPOs in Canada, which in 2010 had 25 offerings worth a combined value of US$5.2 billion.

Several regions have large stock exchanges—the United States, Japan, the United Kingdom, China, and Hong Kong

Figure 6: IPO activity indicators across regions, median change 2006-2008 to 2009-2011



account for over 50 percent of the world's market capitalization (see Table 3). As the data suggest, a majority of the equity market development indicators are still declining in many of these regions, warranting a closer examination of the countries that host the largest exchanges.

Table 3: Top stock exchanges by domestic market capitalization, 2011

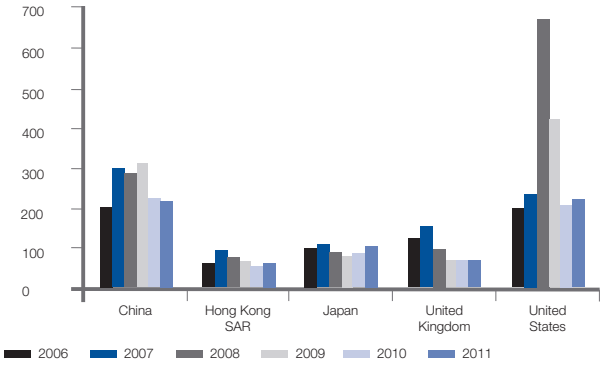
RANK	STOCK EXCHANGE	DOMESTIC MARKET CAPITALIZATION (US$ BILLIONS)	SHARE OF THE WORLD
1	NYSE	11,795.6	25%
2	NASDAQ	3,845.1	8%
3	Tokyo Stock Exchange	3,325.4	7%
4	London Stock Exchange	3,266.4	7%
5	Shanghai Stock Exchange	2,357.4	5%
6	Hong Kong Stock Exchange	2,258.0	5%
7	Toronto Stock Exchange	1,912.1	4%
8	BM&F Bovespa	1,228.9	3%
9	Australian Securities Exchange	1,198.2	3%
10	Deutsche Borse	1,184.5	2%
	Rest of world	15,075.6	32%
	Total	47,447.2	100%

Figure 7 shows that turnover velocity slightly increased from 2006 levels for all countries, except in the United Kingdom, where it is still 45 percent lower than in 2006. This is not particularly surprising, given the ongoing troubles in the euro zone and the lack of an obvious solution. From 2010 to 2011, turnover velocity decreased in China and the United Kingdom by 2 percent and 1 percent, respectively. The remaining three markets all experienced an increase over the past year.

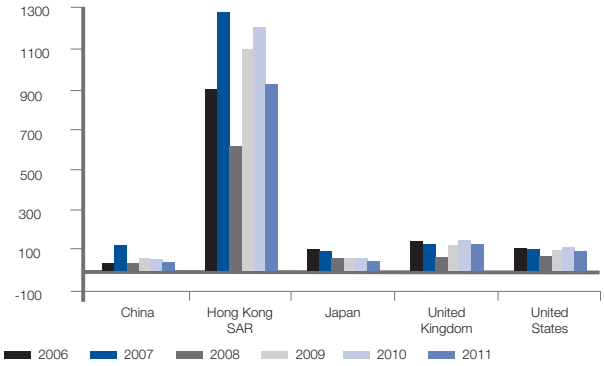
Since 2006, domestic market capitalization to GDP has increased for both China and Hong Kong. In contrast, Japan, the United Kingdom, and the United States all experienced declines over the past five years. Interestingly, from 2010 to 2011, domestic market capitalization to GDP has fallen for all five economies, with China experiencing the largest decline, at 31 percent.

Figure 7: Equity market indicators across top 5 stock exchanges

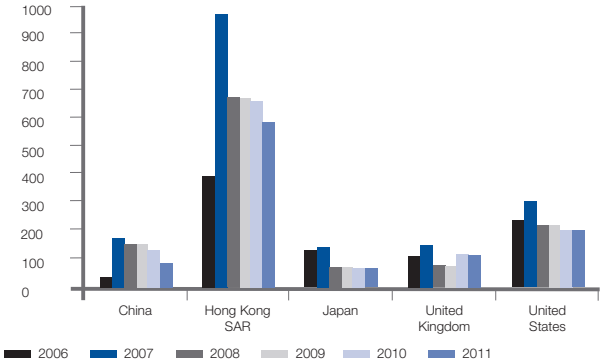
Turnover velocity



Domestic market capitization to GDP



Value of shares trading to GDP



Number of listed companies per 10,000 people

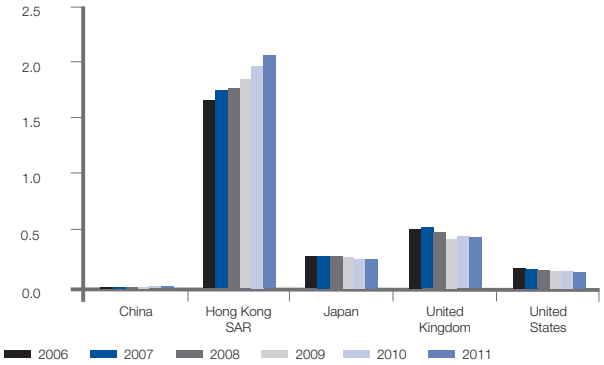
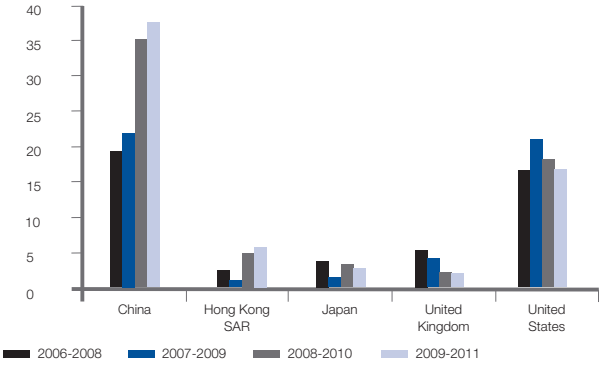
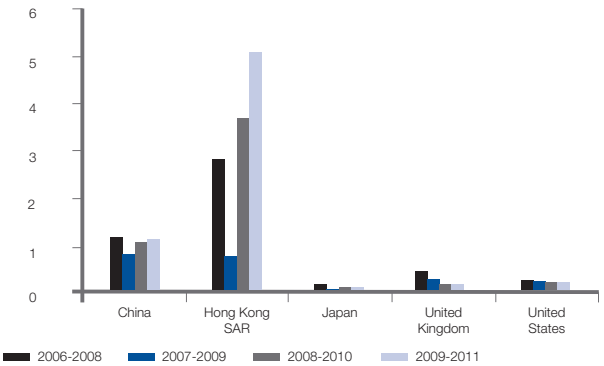


Figure 8: IPO activity indicators across top 5 stock exchanges

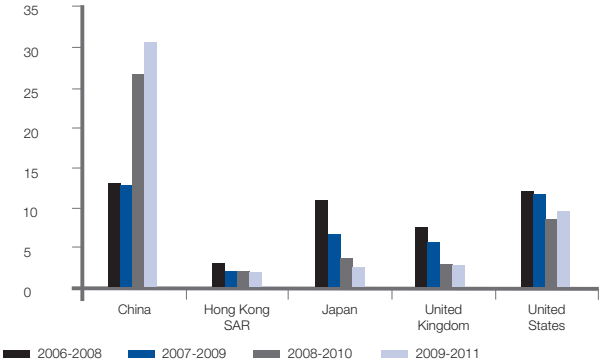
IPO market share, percent of world IPO proceeds



IPO proceeds amount, percent of GDP



Share of worlds IPOs, percent of total global number of issues



Whereas the value of shares trading to GDP has increased substantially in China and Hong Kong since 2006 (109 percent and 49 percent, respectively), the United Kingdom has seen only a modest increase of 2 percent (see Figure 7). Over the same period, Japan and the United States declined 47 and 16 percent, respectively. Looking only at the year-over-year change from 2010 to 2011, it is clear that all five economies have experienced a decrease in the value trading relative to GDP. China and Hong Kong experienced the largest declines, at 34 percent and 11 percent, respectively.

A similar picture presents itself for the number of listed companies per 10,000 people. China and Hong Kong have both increased since 2006 (61 percent and 24 percent, respectively), while the other three economies have declined, with the United Kingdom experiencing the largest decrease, of 14 percent. Year-on-year changes see a continuation of China and Hong Kong increasing, and Japan, the United Kingdom, and the United States declining.

Many of these changes are in line with the movement seen across the IPO activity indicators. Figure 8 shows a decline in all three indicators for Japan, the United Kingdom, and the United States from 2006-2008 to 2009-2011. While both China and Hong Kong increased in IPO market share, China experienced a slight decline of 4 percent for IPO proceeds amount, while Hong Kong saw an increase of 81 percent. This picture reverses itself in the share of world IPO indicator; China more than doubled, while Hong Kong decreased by 32 percent.

The results discussed above indicate that liquidity is stabilizing across the countries that host the world's major stock markets, with the exception of the United Kingdom. Nevertheless, domestic market capitalization to GDP is still declining in three of the five countries examined. Among the factors that influence this drop are declines in value of shares trading to GDP, the number of listed companies per 10,000 people, and the IPO activity indicators. Policymakers should be mindful of these weaknesses and take concerted action if conditions continue to deteriorate.

Regional analysis

While some high-level trends were highlighted earlier, it is at the country level that some of the potentially most useful findings of the *Report* can be seen. The Country Profiles contained in Part 2 provide detailed information with which to undertake this analysis. A summary of highlights, by region, are presented below.

ASIA AND THE PACIFIC

Hong Kong SAR maintains the top spot in the 2012 Financial Development Index. In terms of factors, policies, and institutions, Hong Kong scores quite high in the business environment (2nd) pillar. Areas of particular strength include the taxes (3rd) and infrastructure (1st) subpillars. In the financial stability pillar (8th), Hong Kong has fallen four spots. This can be partially attributed to a drop in rank and score in the risk of sovereign debt crisis (10th) subpillar. More specifically, Hong Kong showed weakness in the aggregate macroeconomic indicator (44th), as well as in manageability of public debt (22nd). With regards to financial intermediation, Hong Kong benefits from both a large (2nd) and efficient (1st) banking system. Despite these areas of considerable strength, Hong Kong does show relative weakness in non-banking financial services (10th), particularly the securitization (25th) subpillar. Hong Kong fell three spots in the financial access (4th) pillar. While commercial access to capital (1st) remains very strong, retail access (18th) is a clear area for improvement.

Although **Singapore** (4th) maintained its position in this year's Index, the country did experience an increase in overall score. Singapore showed improvement in the financial stability pillar (3rd), moving up five spots. Singapore's stable currency system (2nd) is driven by strong results in the current account balance to GDP (2nd), net international investment position to GDP (2nd), and dollarization vulnerability indicator variables (1st). Although Singapore has exhibited strong results in banking financial services (10th), the country does show weakness in the financial information disclosure (32nd) subpillar. In terms of financial intermediation, Singapore scores best in the financial markets (3rd) pillar. The country has highly developed foreign exchange (4th), derivatives (5th), and equity markets (2nd). Despite these areas of strength, Singapore lacks a well-developed bond market (25th). Financial access (14th) scores are mixed, with Singapore scoring high in terms of commercial access to capital (2nd) but quite low with regards to retail access (31st).

Australia has, for the third year in a row, finished behind Singapore, at 5th place. Although Australia did not experience considerable changes at the Index level, the country did exhibit some positive developments in the pillars and subpillars. For instance, Australia has improved in terms of financial stability (9th), moving up four spots. The change is due in part to increased banking system stability (9th). Financial intermediation continues to be area of strength, with Australia scoring high across the non-banking financial services (5th), banking financial services (7th), and financial markets (8th) pillars. Although improvements in the M&A activity (3rd), insurance (12th), and securitization (8th) subpillars provided a boon to Australia's non-banking financial services results, the country experienced a slight decrease in score in the IPO activity (11th) subpillar. Australia's decline of four spots in the financial access (6th) pillar is driven primarily by weakness

in retail access (5th), specifically the comparatively low number of commercial bank branches (13th) and debit card penetration (11th).

Japan's 7th place rank, up one spot from last year, is bolstered by strong scores in the banking financial services (3rd), non-banking financial services (6th), and financial markets (5th) pillars. While Japan's banking system is both large (3rd) and efficient (5th), the country lags in terms of financial information disclosure (17th). The country's business environment (19th) is also relatively weak by developed country standards. Comparatively speaking, Japan suffers from a weak human capital (19th) pool, a less-than-optimal tax regime (24th), and a high cost of doing business (20th). Despite these areas of relative weakness, Japan benefits from having highly developed foreign exchange (3rd) and derivatives markets (6th). Financial access continues to be a development disadvantage for Japan. The country's commercial access (36th) scores fell sharply because of declines in the ease of access to credit (20th), financing through local equity market (14th), and foreign direct investment to GDP (60th) indicators.

After rising six spots in 2011, the **Republic of Korea** (15th) continues to show improvement, moving up three spots in this year's Index. Korea benefitted from positive developments in the financial access (22nd) pillar. Although Korea ranks quite low in commercial access (58th), the country does have a development advantage in retail access (13th). Korea exhibits particular strength in the total number of ATMs (1st) and loan from financial institution (13th) indicators. In terms of factors, policies, and institutions, Korea shows signs of weakness in the institutional environment (34th) and financial stability (44th) pillars. Specifically, Korea has declined four spots in the financial sector liberalization (43rd) subpillar, and three spots in the currency stability (42nd) subpillar. Nevertheless, Korea offsets these weak results with a strong performance across financial intermediation, particularly the non-banking financial services (2nd) and financial markets (14th) pillars.

Malaysia fell two spots, to 18th, in part because of a decline in the financial stability (10th) pillar. Driving this change was increasing currency (3rd) and banking system instability (29th). Malaysia also experienced a nine-spot decline in financial access (28th), which can be attributed to weakness in retail access (35th) scores. Specifically, Malaysia scores relatively low in the number of commercial bank branches (37th) and debit card penetration (42nd). Despite these limitations, Malaysia benefits from a high degree of financial information disclosure (2nd), robust IPO activity (5th), and a well-developed bond market (12th).

China fell four spots in the 2012 Financial Development Index, placing 23rd overall. The decline can be attributed to a decrease in scores in the banking financial services (17th) and financial access (41st) pillars. These changes are due, in part, to greater banking system instability (55th) and by weak results in both the commercial (37th) and retail access (38th) subpillars. China also experienced declines of 11, five, and seven spots in the insurance (15th), bond market development (24th), and financial sector liberalization (44th) subpillars, respectively. Despite these areas of weakness, China retains development advantages across a number of pillars and subpillars. China scores particularly high in non-banking financial services (4th), with IPO (1st) and M&A activity (5th) being especially robust. Still, there is considerable room to improve China's business environment (47th), which remains the country's worst-performing pillar.

Thailand moves up one spot to place 34th this year. Thailand's financial markets (33rd) and financial access (25th) pillars experienced the greatest change, rising seven and 13 spots, respectively. The changes were due to strong results in the equity market development (23rd) and retail access (25th) subpillars. Like a number of other Asian economies, Thailand performs quite well across the financial intermediation pillars. Thailand's banking system increased in both size (24th) and efficiency (17th) this year. In addition, strong M&A activity (38th) provided a boon to the country's non-banking financial services (42nd) pillar score. Although these improvements suggest that Thailand is making strides in financial development, there are still several areas of concern, namely, a decrease in financial stability (34th) driven by an increase in the risk of sovereign debt crisis (35th) and banking system instability (56th).

India ranks 40th in the 2012 Index, a four-spot decline from last year. Weak results in the institutional (56th) and business environment (55th) pillars continue to be driven by an inability to enforce contracts (60th), a low degree of financial sector liberalization (58th), inadequate infrastructure (58th), and a high cost of doing business (56th). Although its factors, policies, and institutions are quite weak, India did experience a slight improvement in the financial stability pillar (46th). The change was due to score improvements across the currency stability (16th) and risk of sovereign debt crisis (47th) subpillars. India's financial intermediation results are mixed. While India ranks quite high in non-banking financial services (9th), banking financial services (45th) are an area for improvement. Financial access (45th) results are also inconsistent, with India having a development advantage in the commercial access (25th) subpillar but a development disadvantage in the retail access (51st) subpillar. India's neighbor to the north, **Pakistan** (58th), shows weakness across the majority of the pillars in the Index. As is the case with India, the country's institutional (58th) and

business environments (58th) are highly underdeveloped. In addition, Pakistan has experienced relatively steep declines in both the commercial (51st) and retail access (59th) subpillars. Still, this year's Index results indicate some signs of improvement. Pakistan's jump in the financial stability pillar (50th) was primarily due to increased banking system stability (22nd).

Kazakhstan (47th) fell one spot because of weakness in financial intermediation. Specifically, Kazakhstan's rank declined five, six, and eight spots in the banking financial services (55th), non-banking financial services (28th), and financial markets (44th) pillars, respectively. Kazakhstan's banking system decreased in size (54th) and efficiency (56th), M&A activity (24th) slowed down, and the country's equity market (54th) took a hit to its level of development. These declines were offset by improvements in banking system stability (36th), IPO activity (45th), and commercial access (39th). In addition, Kazakhstan rose eight spots in the corporate governance (41st) subpillar because of positive developments across a number of indicators, most notably the efficacy of corporate boards (23rd), reliance on professional management (48th), and ethical behavior of firms (37th).

The **Philippines** was unable to continue its impressive climb up the rankings, falling five spots to 49th this year. The biggest change occurred in banking financial services (49th), where the Philippines fell 11 and 12 spots in the size (44th) and efficiency (33rd) indices, respectively. The Philippines also slipped in currency stability (32nd) because of significant weakness in the change in real effective exchange rate (52nd) indicator. Nevertheless, positive developments can be seen in the country's institutional (39th) and business environment (54th) pillar results. Over the past year, the Philippines exhibited improvement in the corporate governance (27th), legal and regulatory issues (48th), human capital (42nd), and taxes (41st) subpillars. Financial access (53rd), particularly retail access (48th), remains an area for improvement.

As in 2011, **Indonesia** (50th), **Vietnam** (52nd), and **Bangladesh** (57th) all place near the bottom of the Financial Development Index. While Indonesia moved up one spot, Vietnam and Bangladesh fell two spots and one spot, respectively. All three countries continue to score quite low in the institutional and business environment pillars. Vietnam's position in these pillars has worsened as the country dropped 10 and 13 spots in the legal and regulatory issues (52nd) and infrastructure (50th) subpillars, respectively. Indonesia likewise experienced a considerable drop in the legal and regulatory issues subpillar (41st), falling seven spots. Despite these weaknesses, Indonesia, Vietnam, and Bangladesh improved in financial intermediation. Vietnam and Bangladesh saw significant jumps in the financial markets subpillar (37th and 41st, respectively), and Indonesia saw minor improvement in non-banking financial services (23rd). All three countries experienced rank declines in the financial access pillar, with Vietnam and Bangladesh dropping the most, at 13 and 15 spots, respectively.

EUROPE AND NORTH AMERICA

The **United States** places 2nd overall for the second consecutive year. The United States continues to be the world leader in both non-banking financial services (1st) and financial markets (1st). It holds the top position across a number of financial intermediation-related subpillars, including: insurance, securitization, foreign exchange markets, and derivatives markets. Although there was little movement within these pillars, the United States did show slight improvement in equity (5th) and bond market development (3rd). Nevertheless, the United States remains comparatively weak in terms of factors, policies, and institutions. While it made a strong jump in financial sector liberalization (1st), the country saw a minor setback in the business environment pillar (13th), primarily because of an inefficient tax regime (30th). Financial stability (38th) continues to be the area of greatest weakness for the United States. However, it should be noted that the country exhibited an improvement in its banking system stability (40th) score, which may indicate a shift in the right direction. With regard to financial access (5th), the United States exhibits mixed results. Whereas retail access (4th) scores are quite strong, commercial access (17th) results are comparatively weak.

Like the United States, the **United Kingdom** (3rd) maintains its position in the 2012 Financial Development Index. The United Kingdom's strength resides primarily in the financial intermediation pillars—banking financial services, non-banking financial services, and financial markets. Although the United Kingdom's banking financial services (2nd) are highly developed, the country experienced a five-spot decline in the efficiency index (23rd). This decrease was balanced by improvements in other areas of financial intermediation, such as securitization (4th) and equity market development (9th), which saw jumps in rank of eight and 10 spots, respectively. The United Kingdom's strong institutional (2nd) and business environment (8th) is attributable to a liberalized financial sector (1st), an ability to effectively enforce contracts (3rd), a strong legal and regulatory framework (6th), and well-developed infrastructure (7th). While the United Kingdom still suffers from financial instability (43rd), the country has shown improvement in the banking system stability (44th) subpillar.

Canada, which ranks 6th overall for the third consecutive year, ranks quite high across most pillars. Canada is particularly strong in factors, policies, and institutions, ranking 6th and

9th in the institutional and business environment pillars, respectively. Financial system stability (13th) pillar results are comparatively weak, and although Canada has a highly stable banking system (5th), the country's currency (46th) is quite unstable. The eight-spot decline that Canada experienced in the currency stability subpillar can be attributed to decreases in the current account balance to GDP (45th) and net international investment position to GDP (14th) indicators. Canada's other area of relative weakness is banking financial services (13th). Over the past year, Canada dropped in rank in both the size (19th) and efficiency (16th) indices. Despite this weakness, Canada is still strong in terms of financial intermediation, as evidenced by its high rank in the non-banking financial services (7th) and financial markets (10th) subpillars. Although Canada ranks quite high in the retail access (3rd) pillar, it could improve access to commercial capital (12th).

Switzerland moved up one spot to place 8th overall in this year's Index. Switzerland's jump, albeit small, can be attributed partly to a boost in non-banking financial services (15th), specifically jumps in rank of 33, seven, and five spots in the IPO activity (14th), securitization (37th), and insurance (5th) subpillars, respectively. Switzerland continues to benefit from well-developed financial markets (7th), as well as a highly stable financial system (2nd). Switzerland jumped six spots to attain the top rank in currency stability. This is due to positive developments in the change in real effective exchange rate (13th) and current account balance to GDP (4th) indicators. Offsetting these areas of strength is relative weakness in banking financial services (16th). Although Switzerland's banking system is quite large (8th), it is relatively inefficient (30th). Financial information disclosure (45th) continues to be an area in need of improvement.

The **Netherlands** fell two spots to 9th in this year's Index, primarily because of weakness in the financial markets pillar (17th). Specifically, the Netherlands' overall position was hurt by weakness in the equity (19th) and bond (9th) market development subpillars. Financial stability (16th) continues to be an area of weakness in spite of the improvements made in banking system stability (21st). Nevertheless, the country benefits from a large (4th) banking system, strong corporate governance mechanisms (5th), highly-developed infrastructure (5th), and a talented human capital pool (6th). The Netherlands has development disadvantages in both the commercial (19th) and retail (17th) access subpillars. While the Netherlands benefits from a sophisticated financial market (7th) and high debit card penetration (1st), it is hindered by relatively low foreign direct investment (38th) and a low number of ATMs (28th).

The Scandinavian countries—**Sweden** (10th), **Denmark** (12th), **Norway** (13th), and **Finland** (17th)—all rank within the top 20 in this year's Index. While Sweden, Denmark and Finland all increased their positions, Norway fell three spots. All four countries rank in the top 10 in both the institutional and business environment pillars. Whereas Sweden and Denmark rank first in financial sector liberalization, Norway and Finland place quite low, at 18th and 24th, respectively. Nevertheless, Norway has strong contract enforcement (4th) mechanisms and a low cost of doing business (3rd), while Finland benefits from effective corporate governance (1st) and a well-developed human capital pool (1st). Various aspects of financial intermediation appear to be the greatest weakness for the Scandinavian countries. All four countries have development disadvantages in non-banking financial services, with Finland ranking the lowest, at 49th. Sweden, Finland, and Denmark experienced considerable improvements in financial access (1st, 8th, and 9th, respectively), particularly in the area of retail access to capital (1st, 10th, and 7th, respectively). On the other hand, Norway experienced declines in the financial access (17th) pillar and commercial access (9th) subpillar.

Germany moved up three spots to 11th overall. The increase in rank is driven by jumps in financial stability (18th), banking financial services (12th), and financial access (16th). Regarding financial stability, Germany experienced positive results in both the banking system stability (20th) and risk of sovereign debt crisis (13th) subpillars. The reduced threat of sovereign debt crisis can be partly attributed to the decline in credit default swap spreads (11th) and an improved score in the aggregate macroeconomic indicator (17th). The improvement in Germany's banking financial services score is due to the increase in size (11th) and efficiency (29th) of the country's banking system. An improvement in financial access can be explained by positive developments in both commercial (30th) and retail access (15th) scores. These gains have been counterbalanced by an increasingly unstable currency system (24th) and weakness in the equity (30th) and bond market development (17th) subpillars.

France (14th) fell two spots in this year's Index because of decreases in the financial stability (42nd) and financial markets (11th) pillars. Greater financial instability can be attributed to currency (40th) and banking system (49th) volatility, and France scores particularly low in the change in real effective exchange rate (40th) and aggregate measure of real estate bubble (44th) indicators. With regards to France's financial markets, the country experienced drops in both equity (25th) and bond market development (7th). Additional areas for improvement include taxes (45th), financial information disclosure (36th), and commercial access (35th). Despite

these areas of weakness, France benefits from a liberalized financial sector (1st), highly developed infrastructure (6th), and a robust foreign exchange market (8th). Retail access to capital (6th) is also quite solid, as France has both a high number of commercial bank branches (6th) and a high market penetration of bank accounts (10th).

Belgium fell three spots to place 16th overall in this year's Index. Belgium experienced declines in financial intermediation, with particular weakness in the equity market development (37th), efficiency index (26th), and insurance (27th) subpillars. Additional areas of weakness include financial stability (27th), where the risk of sovereign debt crisis (33rd) is relatively high. While these are clearly areas for improvement, Belgium benefits from a highly liberal financial sector (1st), a well-developed bond market (2nd), and an educated human capital pool (4th). Financial access (3rd) is also quite strong, as Belgium has development advantages in both the commercial (4th) and retail (9th) access subpillars. The country has considerable strength in foreign direct investment (3rd), debit card penetration (9th), and number of commercial bank branches (4th).

Like France, **Spain** fell two spots, to place 19th overall in the Index. Spain's greatest weakness continues to be in the financial stability (55th) pillar. Currency stability (47th) and banking system stability (58th) remain very weak. Moreover, Spain has fallen seven spots in the risk of sovereign debt crisis (43rd), due primarily to declines in both the local currency (36th) and foreign currency sovereign ratings (30th). Spain has also experienced setbacks in the financial access (20th) pillar, falling five and seven spots in the commercial access (54th) and retail access (12th) subpillars, respectively. While these represent clear areas for improvement, Spain does have development advantages in financial intermediation, particularly in the banking financial services (5th) and financial markets (9th) subpillars. Spain also jumped an impressive 16 spots in IPO activity (18th), providing a boost to its non-banking financial services (18th) score.

Ireland's (20th) two-spot jump in this year's Index is due to improvements in the financial stability (53rd) and non-banking financial services (19th) pillars. Although it still ranks quite low in terms of financial stability, Ireland benefited from a 15-spot jump in the banking system stability (42nd) subpillar. Regarding non-banking financial services, Ireland moved up eight spots to place 20th overall in M&A activity. However, Ireland's robust M&A activity results were offset by declines in securitization (17th). Other areas to target for improvement include banking efficiency (55th), equity market development (46th), and commercial access (42nd). Ireland does have a number of development advantages, primarily in the institutional (11th) and business environment (14th) pillars.

Austria comes in two spots behind Ireland, at 22nd place. Austria has declined 15 spots in the financial stability pillar (31st), driven primarily by an increase in banking system instability (43rd). General weakness can be found in non-banking financial services (47th), where Austria ranks quite low in securitization (57th), insurance (43rd), and IPO activity (43rd). Austria was also hindered by poor results in the financial access (23rd) pillar. Although Austria improved in terms of commercial access (26th), this was offset by a steeper decline in the retail access (20th) subpillar. Like Ireland, Austria benefits from a strong institutional (16th) and business environment (18th). Austria's development advantages stem from having a liberal financial sector (1st), well-developed infrastructure (9th), strong corporate governance mechanisms (14th), and a solid legal and regulatory framework (16th).

Portugal, which was added to this year's Index and ranks 27th overall, exhibits mixed results across the seven pillars, performing quite well in areas such as banking financial services (9th) and financial access (15th) but poorly in financial stability (61st) and non-banking financial services (44th). Financial turmoil and uncertainty is, unsurprisingly, reflected in Portugal's currency stability (54th), banking system stability (57th), and risk of sovereign debt crisis (60th) subpillar results. Weakness in non-banking financial services is evident in M&A activity (44th), insurance (45th), and securitization (39th). Despite these areas for improvement, Portugal does have a number of development advantages, including a liberal financial sector (1st), a well-developed bond market (1st), and a large banking system (7th). Portugal's financial access results are mixed, with the country ranking in the top 10 in retail access (8th) but in the bottom third of commercial access (44th).

Italy's (30th) three-spot drop in this year's Index is a result of declines across a number of pillars and subpillars. Specifically, growing financial instability (51st) can be attributed to drops in both the banking system stability (47th) and risk of sovereign debt crisis (46th) subpillars. Moreover, Italy's weak results in the financial markets (18th) and financial access (33rd) pillars are due to an underperforming equity market (28th) and limited retail access (21st). Additional emphasis should be placed on developing Italy's institutional environment (32nd), where corporate governance, legal and regulatory issues, and contract enforcement all rank quite low, at 57th, 50th, and 58th, respectively. Italy does have some bright spots, as the country has a highly liberalized financial sector (1st), comparatively robust M&A (21st) and IPO activity (20th), and well-developed foreign exchange (19th) and derivatives (13th) markets.

Although they continue to be the highest-ranking Eastern European countries in the Index, both the **Czech Republic** (35th) and **Poland** (37th) experienced a drop in the overall rankings. The Czech Republic's one-spot drop is due to a decrease in non-banking financial services (50th), while Poland's four-spot decline can be attributed to weakness in the financial markets (43rd) pillar. The Czech Republic experienced declines in the IPO activity (50th), insurance (49th), and securitization (42nd) subpillars, while Poland fell in bond market development (32nd). The Czech Republic has relative strength in both the financial stability (11th) and banking financial services (23rd) pillars, and the country ranks quite high in the risk of sovereign debt crisis (12th), efficiency index (8th), and financial information disclosure (6th) subpillars. Poland, in turn, is quite strong in non-banking financial services (20th), particularly in IPO activity (4th). The Czech Republic and Poland continue to exhibit mixed results in financial access (31st and 34th, respectively), exhibiting development advantages in retail access but development disadvantages in commercial access.

Neither the **Slovak Republic** (38th) nor the **Russian Federation** (39th) changed rank in this year's Index. Although there were not significant changes overall, the Slovak Republic and Russia did experience some movement at the pillar and subpillar level. Russia's biggest change occurred in the financial markets (35th) pillar and equity market development (24th) subpillar. The Slovak Republic experienced the greatest movement in the financial access (29th) pillar and retail access (19th) subpillar. Russia continues to be very strong in non-banking financial services (8th), scoring particularly high in the securitization (3rd), M&A activity (7th), and IPO activity (16th) subpillars. The Slovak Republic, on the other hand, is actually weakest in non-banking financial services (52nd), ranking near the bottom of the Index in both M&A activity (58th) and insurance (53rd). The Slovak Republic does benefit from a relatively stable financial system (23rd). However, the gains from improvements in the banking system stability (17th) subpillar were offset by declines in the risk of sovereign debt crisis (31st). Russia continues to be plagued by a weak institutional environment (59th) and should look to address weakness in the corporate governance (61st), legal and regulatory issues (61st), and financial sector liberalization (56th) subpillars.

Hungary rises three spots to place 44th overall in this year's Index. Although Hungary is very weak in financial stability (57th), it has shown improvement over the past year, as evidenced by its four-spot increase in banking system stability (51st). Hungary's banking financial services (51st) results are also quite poor. However, as it did in terms of financial stability, Hungary has improved slightly over the past year in terms of banking system efficiency (46th), because of a reduction in bank overhead costs (48th) and an increase in its aggregate profitability indicator (29th) scores. Additional areas for improvement include non-banking financial services (54th) and the insurance (56th) subpillar in particular.

Greece (48th), which has been added to this year's Index, scores at the bottom of the financial stability pillar (62nd). Greece is a focal point in the euro zone crisis, and this is reflected in the country's risk of sovereign debt crisis (61st) and banking system stability (61st) scores. Although Greece benefits from having a liberal financial sector (1st), the rest of the country's institutional environment (30th) is considerably underdeveloped. Specifically, Greece suffers from a weak legal and regulatory framework (55th), poor corporate governance (50th), and an inability to enforce contracts (50th). Despite these clear weaknesses, Greece does have some bright spots in financial intermediation, namely in banking financial services (26th) and financial markets (29th).

Rounding out the remaining European countries are **Romania** and the **Ukraine**, which rank 51st and 59th, respectively. Although Romania moved up only one spot over the past year, there were some big swings in a number of pillars and subpillars. Most notable were six- and four-spot declines in the institutional (43rd) and business environment (39th) pillars, respectively. While weaker corporate governance (60th) mechanisms and a diminishing human capital (53rd) pool are causes for concern, Romania benefitted from improvements in other areas, such as financial stability (45th) and banking financial services (52nd). Unlike Romania, the Ukraine dropped in rank at the Index level, falling five spots since last year. The decline is attributed to weak results across the financial intermediation pillars. The decline in banking financial services (59th) is due to a decrease in efficiency (60th), while the decline in non-banking financial services (34th) is attributable to the drying up of IPO (34th) and securitization (26th) activity. Both the Ukraine and Romania have development disadvantages in the commercial access subpillar, placing 59th and 55th, respectively.

LATIN AMERICA

Chile (29th) rose two spots in this year's Index and replaces Brazil as the highest-ranked country in Latin America. Although Chile received a boost across the majority of pillars, the greatest improvement occurred in financial markets (40th). The four-spot jump can be attributed to strong results in both the equity (29th) and bond market development (33rd) subpillars. Chile has relatively strong factors, policies, and institutions, and ranks highest in the financial stability pillar (7th). Chile continues to benefit from a low risk of sovereign debt crisis (2nd) and, although it declined this year, a stable banking system (11th). While Chile is making strides in the Index, there are still a number of areas in need of improvement.

For instance, Chile has development disadvantages in banking financial services (41st), which can be attributed to the country's comparatively small (39th) and inefficient (41st) banking system. Moreover, low retail access to capital (43rd) results hinder Chile's position in the financial access (30th) pillar.

Brazil fell two spots to place 32nd overall in this year's Index. Brazil's drop can be attributed to weaker results across the financial stability (24th), financial markets (32nd), and financial access (32nd) pillars. Although Brazil's financial system is quite stable, the country fell in rank in both the currency (6th) and banking systems stability (33rd) subpillars. Brazil's business environment (49th) remains its area of greatest weakness, and the country continues to be hindered by its tax regime (58th), a high cost of doing business (48th), and a comparatively weak human capital pool (43rd). Brazil's institutional environment (46th) is held back by an illiberal financial sector (47th), a weak legal and regulatory framework (46th), and a relative inability to enforce contracts (47th). Non-banking financial services (11th) results are quite strong, and Brazil has shown improvement across the M&A activity (11th), insurance (10th), and securitization (14th) subpillars.

Up one spot from last year, **Panama** continues to move up the rankings and places 36th overall. Panama increased its position in five of seven pillars, the largest jump occurring in financial stability (29th). Panama's risk of sovereign debt crisis (27th) decreased because of improvements across a number of indicators, including local (39th) and foreign currency sovereign rating (34th). Although Panama benefits from a comparatively large (26th) and efficient (12th) banking system, the country ranks very low in the financial markets (58th) pillar. Panama's equity market (55th) places near the bottom of the Index, and limited data availability prevents Panama from being ranked in the foreign exchange markets, derivatives markets, and bond market development subpillars. Panama's financial access (35th) results are quite mixed, with the country ranking very high in commercial access (3rd) but very low in retail access (53rd).

Peru finishes five spots behind Panama at 41st, down one spot from last year's Index. Peru continues to be weak in financial intermediation, ranking 46th, 46th, and 55th in the banking financial services, non-banking financial services, and financial markets pillars, respectively. Declines in the insurance (48th) and equity market development (51st) subpillars were particularly steep. On a positive note, Peru's banking system has become more efficient (36th), as evidenced by the country's 10-spot jump from last year. Financial stability (15th) remains Peru's strongest pillar. It is bolstered by relatively stable currency (21st) and banking (16th) systems, as well as a low risk of sovereign debt crisis (17th). Peru's financial access (26th) pillar results have strengthened, primarily because of jumps made in the retail access (28th) subpillar.

Mexico fell two spots to place 43rd overall in this year's Index. The biggest decline occurred in the financial access pillar (44th), where Mexico was hindered by weak retail access (42nd) results. Mexico also experienced weakness in the areas of equity (50th) and bond market development (34th), falling five and six spots, respectively. While these drops may be some cause for concern, Mexico did jump in rank in a number of areas, including corporate governance (37th), legal and regulatory issues (43rd), and insurance (42nd). Mexico also exhibits particular strength in terms of financial stability (14th). The stability of Mexico's banking system (13th) has improved, and the risk of sovereign debt crisis (28th) has decreased slightly. In addition to financial stability, Mexico has development advantages in several non-banking financial services (33rd) subpillars. In particular, Mexico is quite strong in securitization, where it ranks 19th overall.

After moving up two spots last year, **Colombia** has fallen one spot to place 46th overall in the Index. Colombia has very apparent weaknesses in the institutional environment (52nd) and financial markets (50th) pillars. Colombia's weak legal and regulatory framework (56th) and ineffectiveness in enforcing contracts (56th) hinder the country's ability to develop its factors, policies, and institutions. Although Colombia's foreign exchange market (35th) is relatively developed, its equity market (48th) lags behind countries such as Brazil and Chile. Like Mexico, Colombia scores relatively high in terms of financial stability (28th). However, declines in the banking system stability (53rd) should be cause for some concern. With regards to financial access (37th), Colombia has development advantages in both the commercial access (31st) and retail access (32nd) subpillars. Colombia benefits from having a large amount of foreign direct investment relative to GDP (18th) and a high number of loan accounts at MFIs (4th).

Argentina and **Venezuela** round out the Latin America countries and rank 55th and 62nd, respectively. Both Argentina and Venezuela have fallen in rank in this year's Index. Argentina's largest drop occurred in non-banking financial services (29th), and Venezuela's was in the financial markets (57th) pillar. Although Argentina received a considerable boost in IPO activity (30th), the pillar results were offset by an even greater decline in securitization (18th). Venezuela, on the other hand, received a 16-spot boost in the securitization (22nd) subpillar rankings and an 11-spot jump in rank in the non-banking financial services (40th) pillar. Venezuela continues to suffer from very weak factors, policies, and institutions and ranks at or near the very bottom of both the institutional (62nd) and business environment (61st) subpillars. Though Argentina also has a relatively weak institutional environment (55th), its area of greatest weakness is financial access (60th). Argentina's commercial access (61st) scores are particularly low and result from unsophisticated financial markets (62nd),

limited venture capital availability (62nd), and difficulty accessing loans (62nd).

MIDDLE EAST AND NORTH AFRICA

Placing 21st in this year's Index, **Kuwait** is the highest-ranked country in the Middle East and North Africa region. Kuwait also holds the distinction of having the greatest year-over-year jump in the rankings, moving up an impressive seven spots since last year. Kuwait's climb up the Index is attributed to a boost in the financial access (10th) pillar. In addition, Kuwait has improved in financial stability (12th), moving up 10 and seven spots in the risk of sovereign debt crisis (1st) and currency stability (15th) subpillars, respectively. Kuwait's strong financial markets (6th) are counterbalanced by weakness in the banking financial services (40th) and non-banking financial services (41st) pillars. More specifically, M&A activity (53rd), insurance (52nd), and financial information disclosure (44th) are clear areas for improvement. In the institutional (41st) and business environment (27th) pillars, Kuwait should address underdevelopment issues stemming from a weak legal and regulatory framework (51st) and an underdeveloped human capital pool (56th).

Israel moved up two spots to place 24th overall in this year's Index. Over the past year, Israel exhibited improvement across several pillars, including financial stability (26th), non-banking financial services (36th), and financial markets (20th). Israel also benefits from relatively strong results in the institutional environment (19th) and financial access (19th) pillars. In particular, Israel has a sound legal and regulatory framework (20th), good contract enforcement mechanisms (21st), and solid availability of commercial capital (10th). Despite these relative strengths, there are a number of clear areas for improvement. Banking financial services (30th) and non-banking financial services (36th) are relatively underdeveloped. Israel's banking system is comparatively small (30th) and inefficient (32nd), and the country's securitization (55th) activity is minimal.

Coming in behind Israel are **Bahrain** (25th) and the **United Arab Emirates (UAE)** (26th), both of which declined one spot since last year. Bahrain and the UAE took hits in the banking financial services pillar (27th and 31st, respectively), the UAE because its banking system became less efficient (43rd), falling ten spots, and Bahrain because newly available data allowed the country to be ranked in the size index (25th). Other areas of weakness for Bahrain over the past year include declining M&A activity (48th), increased currency instability (57th), and a declining equity market (35th). The UAE experienced declining results in the IPO activity (48th), securitization (51st), and retail access (26th) subpillars. Despite these weaknesses, the Gulf States benefit from strong factors, policies, and institutions. Bahrain and the UAE benefit from efficient tax regimes (2nd and 1st, respectively), generally strong corporate governance mechanisms (22nd and 16th, respectively) and highly stable banking systems (1st and 4th, respectively).

Saudi Arabia (31st) experienced the largest decline among the countries in the Index, falling eight spots since last year. Saudi Arabia fell in both score and ranking in four of the seven pillars. Weakness in the financial access (40th) pillar is particularly evident, as Saudi Arabia fell ten spots in commercial access (13th) because of weakness in indicators such as foreign direct investment to GDP (25th), financing through local equity market (11th), ease of access to credit (17th), and venture capital availability (14th). Saudi Arabia also dropped in all of the subpillars constituting the institutional environment (28th); the financial sector liberalization (41st) subpillar took the hardest hit, falling 11 spots. On a positive note, Saudi Arabia continues to place 1st overall in terms of financial stability, and the risk of sovereign debt crisis (5th) declined since last year.

Jordan fell one spot to place 33rd overall in this year's Index. Like Saudi Arabia, Jordan fell quite a bit in the financial access (52nd) pillar and retail access subpillar (54th). The country's poor performance in this area stems in part from its low rank in the market penetration of bank accounts (53rd) and loan from a financial institution (54th) indicators. Jordan also experienced a slight drop in the banking financial services (33rd) pillar because of weakness in the size index (23rd). Despite these weaknesses, Jordan benefits from having a well-developed equity market (16th), robust securitization activity (9th), and an efficient tax regime (20th). Although it has a comparatively stable banking system (26th), financial stability (48th) remains one of Jordan's weakest pillars.

Turkey's (42nd) one-spot rise in this year's Index can be attributed to improvement in a number of pillars and subpillars. Turkey showed considerable strength in the financial markets pillar (30th), particularly in equity market development (20th). Other areas of growth include insurance (35th) in the non-banking financial services (45th) pillar, human capital (45th) in the business environment (33rd) pillar, and corporate governance (43rd) in the institutional environment (37th) pillar. On the negative side, Turkey is experiencing greater financial instability (58th). Both Turkey's currency (56th) and banking systems (50th) have become more unstable. Financial access (39th) is another area that experienced sizable drops over the past year. Although Turkey has development advantages in both the commercial (32nd) and retail access (33rd) subpillars, it fell 13 spots in the retail access subpillar.

Morocco (45th) and **Egypt** (53rd), which fell three and four spots, respectively, round out the Middle East and North Africa. Whereas Morocco fell most in the financial stability

(39th) and financial markets (45th) pillars, Egypt was hardest hit in financial access (62nd) and non-banking financial services (56th). Since last year, Morocco has experienced greater currency (22nd) and banking system instability (34th), as well as weakness in equity market development (43rd). Egypt saw M&A activity (49th) dry up substantially and commercial access (49th) drop. While there is still significant room for improvement, Egypt is making its banking system more efficient (47th). Despite a number of declines, Morocco continues to have development advantages in financial intermediation. Morocco's banking system is relatively large (32nd) and efficient (19th), and insurance (33rd) and securitization (30th) activity are strong, given the country's position in the overall Index.

SUB-SAHARAN AFRICA

South Africa moves up one spot to place 28th and continues to be the top-ranked sub-Saharan African country in the Index. South Africa experienced a slight improvement in non-banking financial services (22nd) and financial stability (17th). These changes were driven by greater currency stability (28th) and more robust IPO (26th) and securitization activity (44th). Although South Africa's business environment (42nd) is the country's weakest area, results within the pillar are quite mixed. For instance, South Africa's efficient tax regime (16th) is counterbalanced by a very weak human capital pool (52nd) and underdeveloped infrastructure (51st). South Africa's comparatively strong institutional environment (25th) is a result of good corporate governance mechanisms (11th) and an ability to effectively enforce contracts (19th). In terms of financial access (36th), South Africa offers varied results. On the one hand, commercial access scores (16th) are solid and improving, while retail access (41st) is relatively weak and declining.

Kenya was added to this year's Index and ranks 54th overall. Kenya's factors, policies, and institutions are quite weak, particularly with regard to the business environment (57th) and financial stability (54th) pillars. Kenya's business environment is hindered by a weak human capital pool (54th), underdeveloped infrastructure (56th), and a high cost of doing business (58th). In terms of financial stability, Kenya's high risk of sovereign debt crisis (55th) is attributable to low local (53rd) and foreign currency sovereign ratings (53rd), as well as a low aggregate macroeconomic indicator (52nd) score. Financial intermediation also remains less than optimal, as Kenya ranks 57th and 56th in the banking financial services and financial markets pillars, respectively. Although there are clear areas for improvement, Kenya performs relatively well in the insurance (23rd), commercial access (33rd), banking system stability (32nd), and legal and regulatory issues (38th) subpillars.

Ghana (56th) and **Tanzania** (60th), which were added to last year's Index, have moved in opposite directions. While Ghana rose two spots over last year, Tanzania declined three spots. Tanzania declined in six of seven pillars, although these declines were small. Ghana, on the other hand, saw much more variation, particularly in the financial stability (33rd) and banking financial services pillars (60th). Ghana's weakness in the efficiency index (62nd) was offset by a high score in banking system stability (2nd). While Tanzania continues to rank as one of the most stable financial systems (5th), this may be attributed to the lack of depth and sophistication of its financial markets (62nd), banking financial services (61st), and non-banking financial services (62nd). Ghana exhibits similar weakness in financial intermediation, ranking 60th, 61st, and 61st in the banking financial services, non-banking financial services, and financial markets pillars, respectively. Nevertheless, Ghana benefits from strong commercial access (28th) results, scoring relatively high in the foreign direct investment to GDP (5th) and financing through local equity market (33rd) indicators.

Nigeria fell one spot and ranks 61st overall in this year's Index. Nigeria continues to rank at or near the bottom of the Index in a number of areas, including the business environment (60th), banking financial services (62nd), non-banking financial services (58th), financial markets (60th), and financial access (57th) pillars. While these weaknesses hinder Nigeria's overall development, the country made strides over the past year. For instance, Nigeria's 14-spot jump in the legal and regulatory issues (37th) subpillar is driven by increased central bank transparency (34th) and greater public trust in politicians (47th). Nigeria also improved in financial stability (36th). A reduction in the risk of sovereign debt crisis (44th) can be partly attributed to an improved score in the macroeconomic indicator (43rd). Other areas of relative strength include commercial access (47th), IPO activity (49th), and securitization (49th).

Conclusion

The 2008 crisis brought the financial world to the brink of collapse. Since then, there have been a number of initiatives to identify and address the issues that led to the onset of the crisis. Although the recovery has been much slower than desired, positive developments are evident in the form of higher Tier 1 capital ratios and a lower number of non-performing loans. While this may be a step in the right direction, the path to full recovery is still long. High unemployment, low growth, and unsustainable debt levels could be interpreted as yet another looming crisis. Moreover, waning trust in the system and its actors is reflected in volatile stock markets. Weaknesses in the *Financial Development Report*'s equity market indicators suggest that further volatility in the stock markets can be expected, at least in the near term. Although

leaders will be stretched thin to find solutions to both domestic and international problems, it is imperative that they address these issues to ensure that the foundations that allow financial systems to develop are in place.

The Country Profiles and Data Tables in this *Report* contain a wealth of data that can be a useful starting point to supplement this analysis. These data are presented within a transparent and comprehensive framework that encourages breadth of analysis within countries and the benchmarking of performance across them. The framework is limited by the data that are available for the countries covered in the Index, and its findings should be scrutinized and, where appropriate, challenged. However, we believe the advantages of bringing together such a comprehensive amount of data in a structured and accessible way far outweigh these limitations. We hope that this *Report* broadens and sharpens the perspective of those who are working to harness the full potential of financial systems to promote global economic growth and individual welfare.

Notes

1 Khan and Senhadji 2000.

2 Schumpeter (1912) holds that financial intermediaries select the firms that utilize an economy's savings. More formally, his view stipulates that financial intermediaries tend to adjust the process of savings allocation rather than alter the savings rate itself. Thus, Schumpeter's notion of finance and development focuses on the effect of financial intermediaries on productivity growth and the rates of technological change.

3 For a detailed review of the literature on finance and growth, see Levine 2004.

4 Kannan 2010.

5 Ranciere et al. 2008. This research does not suggest that financial crises are good for economic growth. Rather, it suggests that the systemic risk-taking that overcomes financial bottlenecks to economic growth is associated with occasional financial crises.

6 Feyen 2009.

7 Levine 2004.

8 La Porta et al. 1997, 1998, 1999; Levine 1998, 1999; and Barth et al. 1999.

9 Bekaert and Harvey 2005 also hold explicitly that reforms that strengthen a country's legal environment and investor protection are most likely the true cause of better growth prospects.

10 Kpodar and Jan Singh 2011.

11 Caceres and Kochanova 2012.

12 La Porta et al. 1997; King and Levine 1993.

13 Schleifer and Vishny 1997.

14 Tavares 2002.

15 Claessens et al. 2010.

16 Galor and Zeira 1993.

17 Fitzgerald 2007.

18 For findings related to the positive relationship between liberalization and growth, see Grilli and Milesi-Ferretti 1995; Kraay 1998; Rodrik 1998; and Edison et al. 2002a. The works of Quinn 1997; Klein and Olivei 1999; and Quinn and Toyoda 2008 support the relationship. Research presented in Edison et al. 2002b; Chanda 2003; and Arteta 2003 find the relationship to be ambiguous.

19 De la Torre et al. 2008.

20 Ito and Chin 2007.

21 Levine 1997.

22 Outreville 1999.

23 Barro 1991.

24 Beck 2006.

25 Guiso et al. 2010.

26 Aizenman and Pinto 2011.

27 Loayza and Ranciere 2002.

28 De la Torre and Ize 2009.

29 Rojas-Suarez 2003.

30 Merton and Brodie 1998.

31 Goldsmith 1969.

32 Ito and Chinn 2007.

33 Levine 2004.

34 That such channeling and efficient allocation occur is emphasized based on two premises: (1) financial intermediaries provide liquidity, and (2) financial intermediaries are capable of altering the riskiness of assets; see Claus and Grimes 2003.

35 Gerschenkron 1962, along with others, asserts that banks finance growth in a more effective and efficient way than market-based systems, particularly in underdeveloped economies where non-bank financial intermediaries are generally less sophisticated.

36 Rajan and Zingales 2001.

37 Levine 1997, 2001.

38 Xiao and Zhao 2011.

39 Barth et al. 1999.

40 Vittas 1998.

41 Demirgüç-Kunt and Levine 2001.

42 Noyer 2006.

43 Avram et al. 2010.

44 Lin 2007.

45 Demirgüç-Kunt et al. 2011.

46 Levine and Zervos 1996 employ several indicators for stock markets, spanning size (market capitalization ratio) and liquidity (stock market turnover and stock market value traded both as shares of GDP).

47 Arestis et al. 2001.

48 Demirgüç-Kunt and Levine 2001.

49 Fink et al. 2003.

50 See http://www.imf.org/external/np/speeches/2007/082207.htm.

51 Beck et al. 2006.

52 Beck et al. 2010.

53 The World Federation of Exchanges data are not deflated and cover 39 of the 62 countries reported in the Financial Development Index this year.

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Appendix A: Structure of the Financial Development Index 2012

This appendix presents the structure of the Financial Development Index.

The numbering of the variables matches the numbering of the data tables. The number preceding the period indicates to which pillar the variable belongs (e.g., variable 1.01 belongs to the first pillar).

The indicators from sources other than the Executive Opinion Survey used in the Index are normalized on a 1-to-7 scale in order to align them with the Executive Opinion Survey's results.[1] The Technical Notes and Sources at the end of this Report provide detailed information on all of these indicators. In some instances, the interaction among different variables was also captured because certain variables can be considered more beneficial in the presence of others. For instance, the effect of liberalizing the capital account and the domestic financial sector has been found in empirical studies to be mixed, yielding both positive and negative results. However, a strong legal and regulatory environment and a developed bond market tend to mitigate the negative effects of the liberalization process. To account for this, the scores of the capital account liberalization, commitments to WTO Agreement on Trade in Services within the financial services sector, and domestic financial sector liberalization indicators were adjusted. Any economy with standardized scores above the average for the legal and regulatory issues and bond market development subpillars experienced positive effects as a result of the liberalization, while the opposite is true for countries with scores lower than these averages.[2]

Weighting and scaling of variables

One of the key design principles of the Index is the inclusion of the breadth of variables relevant to the financial development of both emerging and developed economies. Given the emphasis placed on the component parts of the Index as a framework for analysis, we have taken a very conservative approach to the weighting of variables. We have generally weighted different components of the Index equally.

In some instances, there was sufficient cause to assign different weights to the subpillars within the Index. Within the financial stability pillar, banking system stability is weighted more heavily (40 percent) than currency stability and risk of sovereign debt crisis (30 percent each). Within the banking financial services pillar, there are three subgroups: the size of the banking system, the efficiency of the banking system, and the role of financial information disclosure. The first two variables were weighted 40 percent each in this pillar, while the last variable was weighted at 20 percent, thus placing more importance on the size and efficiency of the banking system than on the role of disclosure. Within the financial markets pillar, a 30 percent weight was assigned to the equity and bond market subpillars, and a 20 percent weight was assigned to the foreign exchange and derivatives market subpillars. This was done to signify the relatively greater importance of equity and bond market development.

For many variables, especially those related to the size and depth of the financial system, scaling by GDP was deemed necessary to control for country size. Scaling by GDP also allows for more relevant cross-country comparisons.

Index structure

The percentage next to each category in the list below represents the category's weight within its immediate parent category. The computation of the Index is based on successive aggregations of scores, from the variable level (i.e., the lowest level) all the way up to the overall Index score (i.e., the highest level), using the weights reported below. For example, the score a country achieves on the bond market development subpillar comprises 30 percent of the country's financial markets pillar (VI) score. Likewise, the score a country achieves in the 5th pillar accounts for 14.29 percent of the Index score.

A dynamic weighting regime removes individual variables from the subpillar and pillar calculations when no data are present. The weight normally attributed to a particular variable will be spread among variables for which data are present. Therefore, the actual weight for each variable by country may not be exactly as noted.

1st pillar: Institutional environment 14.29%

A. Financial sector liberalization 25.00%

- 1.01 Capital account liberalization
- 1.02 Commitments to WTO Agreement on Trade in Services
- 1.03 Domestic financial sector liberalization

B. Corporate governance 25.00%

- 1.04 Extent of incentive-based compensation
- 1.05 Efficacy of corporate boards
- 1.06 Reliance on professional management
- 1.07 Willingness to delegate
- 1.08 Strength of auditing and reporting standards
- 1.09 Ethical behavior of firms
- 1.10 Protection of minority shareholders' interests

C. Legal and regulatory issues..... 25.00%

- 1.11 Burden of government regulation
- 1.12 Regulation of securities exchanges
- 1.13 Property rights
- 1.14 Intellectual property protection

Appendix A: Structure of the Financial Development Index 2012 (continued)

1.15 Diversion of public funds
1.16 Public trust of politicians
1.17 Corruption perceptions index
1.18 Strength of legal rights index
1.19 Central bank transparency

D. Contract enforcement 25.00%

1.20 Effectiveness of law-making bodies
1.21 Judicial independence
1.22 Irregular payments in judicial decisions
1.23 Time to enforce a contract
1.24 Number of procedures to enforce a contract
1.25 Strength of investor protection index
1.26 Cost of enforcing contracts

2nd pillar: Business environment 14.29%

A. Human capital 25.00%

2.01 Quality of management schools
2.02 Quality of math and science education
2.03 Extent of staff training
2.04 Local availability of specialized research and training services
2.05 Brain drain
2.06 Tertiary enrollment

B. Taxes 25.00%

2.07 Irregular payments in tax collection
2.08 Distortive effect of taxes and subsidies on competition
2.09 Marginal tax variation
2.10 Time to pay taxes

C. Infrastructure 25.00%

2.11 Quality of overall infrastructure
2.12 Quality of electricity supply
2.13 Internet users
2.14 Broadband Internet subscriptions
2.15 Telephone subscriptions
2.16 Mobile telephone subscriptions

D. Cost of doing business..... 25.00%

2.17 Cost of starting a business
2.18 Cost of registering property
2.19 Cost of closing a business
2.20 Time to start a business
2.21 Time to register property
2.22 Time to close a business

3rd pillar: Financial stability 14.29%

A. Currency stability 30.00%

3.01 Change in real effective exchange rate (REER)
3.02 External vulnerability indicator
3.03 Current account balance to GDP
3.04 Dollarization vulnerability indicator
3.05 External debt to GDP (developing economies)
3.06 Net international investment position to GDP (advanced economies)

B. Banking system stability 40.00%

3.07 Frequency of banking crises
3.08 Financial strengths indicator
3.09 Aggregate measure of real estate bubbles
3.10 Tier 1 capital ratio
3.11 Output loss during banking crises

C. Risk of sovereign debt crisis 30.00%

3.12 Local currency sovereign rating
3.13 Foreign currency sovereign rating
3.14 Aggregate macroeconomic indicator
3.15 Manageability of public debt
3.16 Credit default swap spreads

4th pillar: Banking financial services 14.29%

A. Size index 40.00%

4.01 Deposit money bank assets to GDP
4.02 Central bank assets to GDP
4.03 Financial system deposits to GDP
4.04 M2 to GDP
4.05 Private credit to GDP
4.06 Bank deposits to GDP
4.07 Money market instruments to GDP

B. Efficiency index 40.00%

4.08 Aggregate profitability indicator
4.09 Bank overhead costs
4.10 Public ownership of banks
4.11 Bank operating costs to assets
4.12 Non-performing bank loans to total loans

C. Financial information disclosure 20.00%

4.13 Private credit bureau coverage
4.14 Public credit registry coverage

5th pillar: Non-banking financial services 14.29%

A. IPO activity 25.00%

5.01 IPO market share
5.02 IPO proceeds amount
5.03 Share of world IPOs

B. M&A activity 25.00%

5.04 M&A market share
5.05 M&A transaction value to GDP
5.06 Share of total number of M&A deals

C. Insurance 25.00%

5.07 Life insurance penetration
5.08 Non-life insurance penetration
5.09 Real growth of direct insurance premiums
5.10 Life insurance density
5.11 Non-life insurance density
5.12 Relative value added of insurance to GDP

Appendix A: Structure of the Financial Development Index 2012 (continued)

D. Securitization 25.00%

5.13 Securitization to GDP

5.14 Share of total number of securitization deals

6th pillar: Financial markets 14.29%

A. Foreign exchange markets 20.00%

6.01 Spot foreign exchange turnover

6.02 Outright forward foreign exchange turnover

6.03 Foreign exchange swap turnover

B. Derivatives markets 20.00%

6.04 Interest rate derivatives turnover: Forward rate agreements

6.05 Interest rate derivatives turnover: Swaps

6.06 Interest rate derivatives turnover: Options

6.07 Foreign exchange derivatives turnover: Currency swaps

6.08 Foreign exchange derivatives turnover: Options

C. Equity market development 30.00%

6.09 Stock market turnover ratio

6.10 Stock market capitalization to GDP

6.11 Stock market value traded to GDP

6.12 Number of listed companies per 10,000 people

D. Bond market development 30.00%

6.13 Private domestic bond market capitalization to GDP

6.14 Public domestic bond market capitalization to GDP

6.15 Private international bonds to GDP

6.16 Public international bonds to GDP

6.17 Local currency corporate bond issuance to GDP

7th pillar: Financial access 14.29%

A. Commercial access 50.00%

7.01 Financial market sophistication

7.02 Venture capital availability

7.03 Ease of access to credit

7.04 Financing through local equity market

7.05 Ease of access to loans

7.06 Foreign direct investment to GDP

B. Retail access 50.00%

7.07 Market penetration of bank accounts

7.08 Commercial bank branches

7.09 Total number of ATMs

7.10 Debit card penetration

7.11 Loan accounts at MFIs

7.12 Loan at a financial institution

Notes

1 See Browne and Geiger 2009. The standard formula for converting hard data is the following:

$$6 \times \frac{(\text{country score} - \text{sample minimum})}{(\text{sample maximum} - \text{sample minimum})} + 1$$

The *sample minimum* and *sample maximum* are, respectively, the lowest and highest country scores in the sample of countries covered by the Index. In some instances, adjustments were made to account for extreme outliers. For those hard data variables for which a higher value indicates a worse outcome (e.g., Frequency of banking crises, Entry restrictions for banks), we rely on a normalization formula that, in addition to converting the series to a 1-to-7 scale, reverses it so that 1 and 7 still corresponds to the worst and best possible outcomes, respectively:

$$-6 \times \frac{(\text{country score} - \text{sample minimum})}{(\text{sample maximum} - \text{sample minimum})} + 7$$

2 The average score for the legal and regulatory issues was 4.10. The average score for the bond market development was 2.76.