



THE NEW FINANCIAL GLOBAL CAPITAL MARKETS GROWTH INDEX

ANALYSIS OF THE SIZE, DEPTH & GROWTH POTENTIAL OF
CAPITAL MARKETS IN 60 ECONOMIES AROUND THE WORLD

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> This unique index shows that capital markets in the US are by far the largest in the world today and are nearly twice the size of markets in Asia and Europe. But capital markets in Asia and emerging markets are catching up fast and are set to dominate the potential growth in global capital markets in the coming decade.

What this report is about

Two of the biggest economic challenges facing governments around the world are how to ensure that companies have access to a wide range of funding to enable them to raise money to invest in jobs and growth; and how to fund the future retirement income of billions of people many decades from now. If economies are too reliant on bank lending, companies can be starved of vital funding as and when the financial cycle turns - as happened around the world in the wake of the financial crisis. And economies that rely too heavily on pensions systems funded by tomorrow's taxpayers may face an unsustainable burden in providing a decent retirement income for their citizens in the future. Capital markets can help address both of these challenges.

This report analyses - we think for the first time - the size, depth and growth potential of capital markets in 60 economies around the world across 25 different sectors of capital markets activity. It highlights the wide range in the level of development of capital markets between different regions and different economies, and shows that while developed economies have the largest capital markets in terms of sheer size, in many sectors emerging economies have the highest growth potential in both absolute and relative terms in the medium- to long-term.

Large and deep capital markets are not an end in themselves. The value of deeper capital markets is that they support sustainable economic growth in several ways. Healthy capital markets diversify the range of financing for companies and reduce their reliance on bank lending; they boost the shock absorption capacity of an economy and strengthen financial stability; they improve productivity through more efficient allocation of capital; and they provide more people with more opportunities to invest or save towards their retirement. We hope this report helps policymakers and market participants better identify development gaps and growth opportunities and how to address them, and better understand how deeper capital markets can benefit their economies.

The report is made up of the following sections:

- 1) **Headline rankings:** an overall ranking of the size and depth of capital markets by economy and by region
- 2) **Size & depth:** measuring the size and depth of different sectors of the capital markets around the world
- 3) **The growth opportunity:** measuring the potential growth of capital markets around the world
- 4) **Context:** what are the barriers to deeper capital markets and how can policymakers address them?
- 5) **Appendix:** a detailed ranking of the depth of capital markets and their growth potential in each economy

Summary methodology:

We analysed the depth of capital markets across the following 25 different sectors of activity in 60 economies:

- **Pools of capital*:** pensions assets, insurance assets, household financial assets (excluding pensions, insurance and cash deposits)
- **Equity markets:** stockmarket, initial public offerings, secondary equity issues, convertible bonds
- **Bond markets:** value of bond market, value of corporate bond market, investment grade bond issuance, high-yield bond issuance, bank lending relative to corporate bonds
- **Loans & securitisation:** value of outstanding securitisation, securitisation issuance, leveraged loan issuance
- **Assets under management:** assets under management
- **Corporate activity:** M&A by target nationality, M&A by acquiror nationality, domestic M&A
- **Private equity & venture capital:** private equity activity, venture capital activity, private equity fundraising
- **Trading:** equity trading volumes, FX trading, OTC derivatives trading

Acknowledgements:

Thank you to Panagiotis Asimakopoulos and Eivind Friis Hamre for doing most of the heavy-lifting on the research; the Global Financial Markets Association for supporting this project; and our members for supporting our work in making the case for bigger and better capital markets.

** Note: the vast range of different workplace and personal pensions systems around the world makes a direct comparison of pensions assets complicated. In addition, the poor consistency of data on direct retail investment means that we have been unable to include it, which understates the size of pools of capital in economies with highly-developed retail markets such as the US and Canada.*

Bigger and better capital markets

This report argues that bigger and deeper capital markets can help support sustainable economic growth around the world by providing a more balanced and efficient form of funding for companies than bank lending alone, improving productivity through more efficient capital allocation and better risk management, increasing the capacity of economies to absorb economic shocks, and funding more sustainable pensions systems. The starting point for deep and effective capital markets is deep pools of long-term capital such as pensions, insurance assets and retail investment. While the economic and financial system in every economy is unique - and capital markets are at vastly different stages of development - our analysis shows there is huge potential for growth in capital markets around the world.

A 10 point summary of this report:

1. **Size matters:** The US has by far the largest and most developed capital markets in the world with an average share of more than 44% of capital markets activity across the 25 sectors and 60 economies in our sample. US capital markets are more than twice the size of markets in the EU (21%) and nearly three times the size of markets in China (13%). The US underlines the relationship between deep pools of capital and deep capital markets: it has the largest pools of capital, the largest stock- and bond markets, the largest retail investment market, and the lowest reliance on bank lending as a source of funding of any economy.

The US is one of minority of economies with a bigger share of global capital markets activity than of global GDP: others with highly-developed capital markets include the UK, Canada, Hong Kong, Singapore, Switzerland and Luxembourg. On the flipside, big economies like Brazil, China, Germany, India, and Japan have relatively small capital markets compared with their GDP.

2. **A wide range in depth:** our analysis of the depth of capital markets across 25 different sectors in 60 economies highlights a wide range in the level of development of capital markets between different regions and individual economies. Capital markets in developed markets are twice as deep relative to GDP as in emerging markets, and the region with the deepest capital markets (North America) is well over twice the depth of markets in the Asia Pacific region or Europe.

Our ranking is dominated by a premier league of six economies with highly-developed capital markets relative to GDP. The top two positions are smaller economies which act as hubs for regional activity: Hong Kong is top with a score of 261 (compared with a global benchmark of 100), and Singapore comes second with 248. They are followed by the US on 170, Luxembourg on 149, the UK on 138, and Canada on 124.

3. **The rise of Asia:** while capital markets in the Asia Pacific region are on average less than half as deep as in the US, they are catching up fast. They have already overtaken European capital markets both in terms of size (Asia accounts for 27% of global activity compared with 24% for EMEA) and depth relative to GDP. Much of this is driven by China, which accounts for 40% of Asian capital markets activity and which has capital markets that are deeper than those in many large European economies. Even on relatively conservative assumptions, capital markets in the Asia Pacific region are set to experience the most rapid growth over the coming decade.
4. **The future of Europe:** capital markets in Europe are currently punching below their weight. The EU28 accounts for 23% of the combined GDP in our sample but only 21% of capital markets activity, and capital markets in the EU are less than half as deep relative to GDP as in the US (with an overall depth score of 70 versus 170). A big factor in this relative underdevelopment is the fragmented nature of the European economy, and the fact that many recent members states only started to develop their capital markets from scratch in the early 1990s. The EU's capital markets union initiative to help reduce the cross-border barriers to deeper capital markets could help accelerate the growth of capital markets in future. Brexit has highlighted the urgency of the CMU project: without the UK, capital markets in the rest of the EU27 are around one third smaller and significantly less developed than in the EU28.

A 10 point summary of this report (continued)

5. **The reliance on banks:** in every region outside of North America, companies are still heavily reliant on bank lending for their funding. In the US the split between bank lending and corporate bonds is 26% bank lending and 74% bonds. Economies in Asia and Europe are nearly three times more dependent on bank lending. While there are clear structural differences in banking systems around the world, this reliance exposes these economies to the cyclical nature of bank lending, which can quickly dry up after an economic shock. If companies in the emerging markets reduced their reliance on bank lending from 80% of the borrowing to 70%, it would involve an increase in funding from the corporate bond markets of around \$6 trillion (or double the current value of emerging market corporate bonds).
6. **Deeper pools of capital:** deep pools of long-term capital such as pensions and insurance assets – as well as direct retail investment in funds and securities - are the starting point for deep and effective capital markets. But in Europe they are only half as deep relative to GDP as in the US, and in Asia just a quarter as deep. While households in Europe and Asia save more than in the US, there is huge potential to shift more of these savings into long-term pools of capital by developing pensions systems and encouraging more retail investment. In the US, just 12% of household financial assets are held in bank savings, compared with more than 30% in Europe and over 40% in Asia. If households in Asia and Europe switched one third of their cash savings into longer-term investments it would transfer around \$12 trillion into long-term pools of capital.
7. **The huge potential for growth:** we estimate that over the next 10 years global capital markets activity could grow by between 40% and 70% in real terms in sectors like IPOs and corporate bond issuance, which would significantly reduce the reliance of companies in many economies on bank lending and support more sustainable economic growth. Global pools of long-term capital will increase by around one third (equivalent to \$24 trillion in real terms) as billions of people become wealthier and more economies around the world introduce and develop workplace and private pensions systems to address the looming demographic timebomb.
8. **A shift in the balance of power:** capital markets activity in emerging markets is likely to grow at between two and four times the rate of developed markets. In absolute terms, markets in the Asia Pacific will account for as much as two thirds of the growth over the coming decade in sectors such as stockmarkets, IPOs and corporate bonds. In most sectors, the potential growth in Asia is two to four times larger than in EMEA in terms of value, and Asia will increase its share of global capital markets activity from around one third today to just under a half over the next 20 years.
9. **The bigger picture:** capital markets do not exist in a vacuum and bigger and deeper capital markets will not happen on their own. Efficient capital markets rely on a thriving business environment, stable government, and high levels of trust in the rule of law. Economies that want to develop deeper capital markets to support their economies will need to focus on wider issues such as structural economic reform rather than narrow regulation of banking and financial markets. Economies that are open and competitive are more likely to enjoy flourishing capital markets. (see section on policy from page 20).
10. **Laying the foundations:** there are plenty of measures that governments and regulators can take to support the growth of deep and effective capital markets, from encouraging the formation of pools of capital through the development of workplace and private pensions; promoting better financial literacy and a retail investment culture; ensuring and maintaining high standards of market integrity and investor protection; calibrating the need for high standards of supervision and regulation with the need for innovation and growth; and opening up capital markets to greater competition. While many of the barriers to deeper capital markets are national, the increasingly interconnected global economy means that some of these challenges can only be addressed at a cross-border, regional or global level.

Capital markets around the world

In this section we present the headline ranking showing the size and depth of capital markets in each economy and three main geographic regions of Americas, Asia Pacific and EMEA (Europe, Middle East & Africa). Our rankings measure the size of capital markets in terms of the average share of total capital markets activity across the 25 sectors and 60 economies in our sample, and the overall depth of capital markets in each economy based on the value of capital markets activity relative to GDP.

Global ranking of the size of capital markets Page 6

Global ranking of the depth of capital markets Page 7

Global ranking of depth by region Page 8

A summary of global capital markets Page 9

What we measured:

We calculated the overall depth of capital markets in the following way:

- We measured the value of activity in 25 different sectors of the capital markets in 2017 across 60 economies.
- In each sector, we converted the value of activity into a percentage of GDP for each economy.
- To enable a comparison in depth between sectors we rebased these percentages in each sector to the EU average, with 100 representing the average depth for that sector across the EU in 2017. We used the EU average as our baseline because over the past four years we have built a model that measures the depth of capital markets in the EU back to 2004.

The overall ranking:

To produce the overall ranking for each economy we calculated the average of these rebased scores across all 25 sectors. We deliberately chose these sectors to represent a wide range of activity across the capital markets, including pools of capital, equity markets, debt markets, asset management, trading, M&A activity, and private equity and venture capital. We have not weighted any of the sectors in the overall ranking.

The average score across all 25 sectors for the EU was 100, and the global average was 131, which means global capital markets are nearly one third deeper relative to GDP than the in the EU. We then rebased our headline rankings to 100 = the global average, meaning that an economy with an overall score of 200 has capital markets that are twice as deep relative to GDP as the global average, and an economy with a score of 50 has capital markets that are half as deep.

This methodology is similar to the one we have used in our reports on EU capital markets over the past four years. While it has the advantage of simplicity, in a handful of economies with a particularly large sector relative to GDP, it can distort the overall ranking. In order to reduce these distortions, we capped each metric at two standard deviations from the mean for each economy. For example, Israel's overall ranking is boosted by the depth of its venture capital industry which is twice as large relative to GDP as the US and 20 times deeper than the other sectors of the capital markets in Israel. By capping outlier sectors in each economy in the same way, it reduces the distortion of a few outsize sectors more fairly than not including the metric at all. We have highlighted and explained these outliers where appropriate.

For a full methodology, see page 28. For a detailed list of the relative depth of capital markets in different sectors across our sample, see the Appendix on page 30.

MAIN INDEX - THE SIZE OF CAPITAL MARKETS

Size matters

The starting point for any analysis of the depth and growth potential of capital markets around the world is understanding how big they are today. And the inescapable conclusion is that when it comes to capital markets, the US is in a league of its own.

Fig. I ranks economies by the size of their capital markets, as measured by the average share of global capital markets activity across the 25 sectors in our sample. We chose this approach to make it easier to include sectors of vastly different value (for example, the value of stockmarkets runs into the trillions of dollars in large economies, while in all but a handful of economies venture capital investment is measured in the tens of millions).

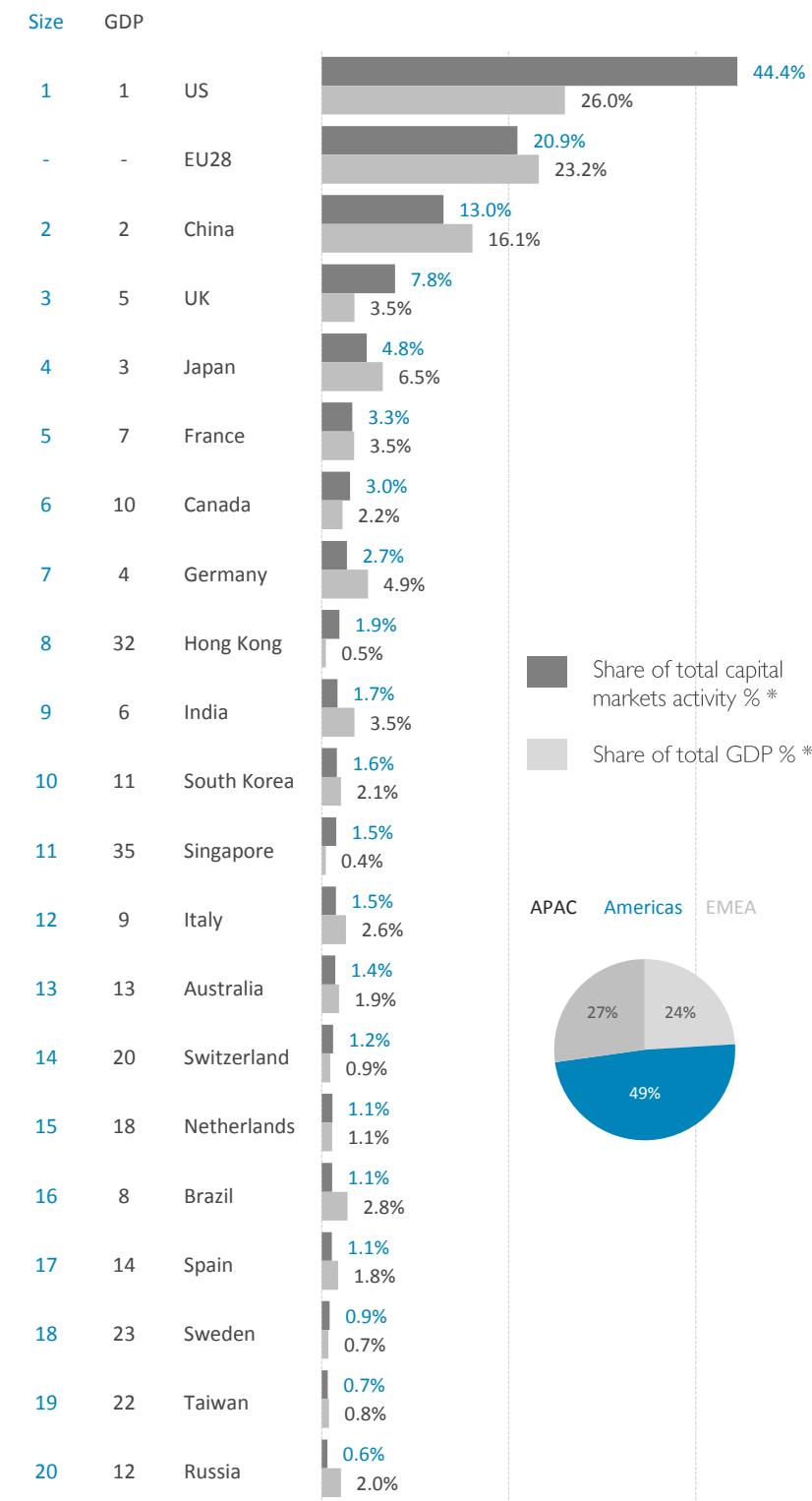
The US dominates the ranking with an average share of more than 44% of total capital markets activity across the 25 sectors and 60 economies in our sample. Capital markets in the US are more than twice the size of markets in the EU, and not far short of three times the size of markets in China. The US has the largest market in 22 out of the 25 sectors that we analysed: the only three sectors where the US is not the largest market in the world are IPOs (where it is second to China) and the value of trading in foreign exchange and OTC derivatives (where it is second to the UK).

The chart also highlights the disparity between the value of capital markets activity and GDP. For example, capital markets in the US are more than twice as big as in the EU even though the US economy is only around 10% larger. The US is one of handful of economies – including the UK, Canada, Hong Kong, Singapore and Switzerland – where capital markets are bigger than you would expect based on the size of GDP. On the flipside, China, Japan, India, Germany and Brazil have capital markets that are significantly smaller than the size of their economy would suggest.

Overall, the Americas account for 49% of global capital markets activity, almost as much as the Asia Pacific region (27%) and EMEA (24%) combined.

Fig. I The size of capital markets around the world

Size of capital markets by economy measured by the average share of total activity across 25 different sectors in 2017 %



* Note: % share based on our sample of 60 economies

Source: New Financial

MAIN INDEX - THE DEPTH OF CAPITAL MARKETS

A wide range

Our ranking measures the size of capital markets relative to GDP and highlights the wide range in the level of development and depth of capital markets around the world.

The ranking is dominated by two smaller economies that act as regional hubs for capital markets activity. Across the 25 sectors in our sample, Hong Kong is top of the ranking with an overall score of 261, just ahead of Singapore in second place on 248, and more than double the global benchmark of 100. The US - which has by far the largest capital markets in the world by value - ranks third for depth on 170, with the UK fifth on 138.

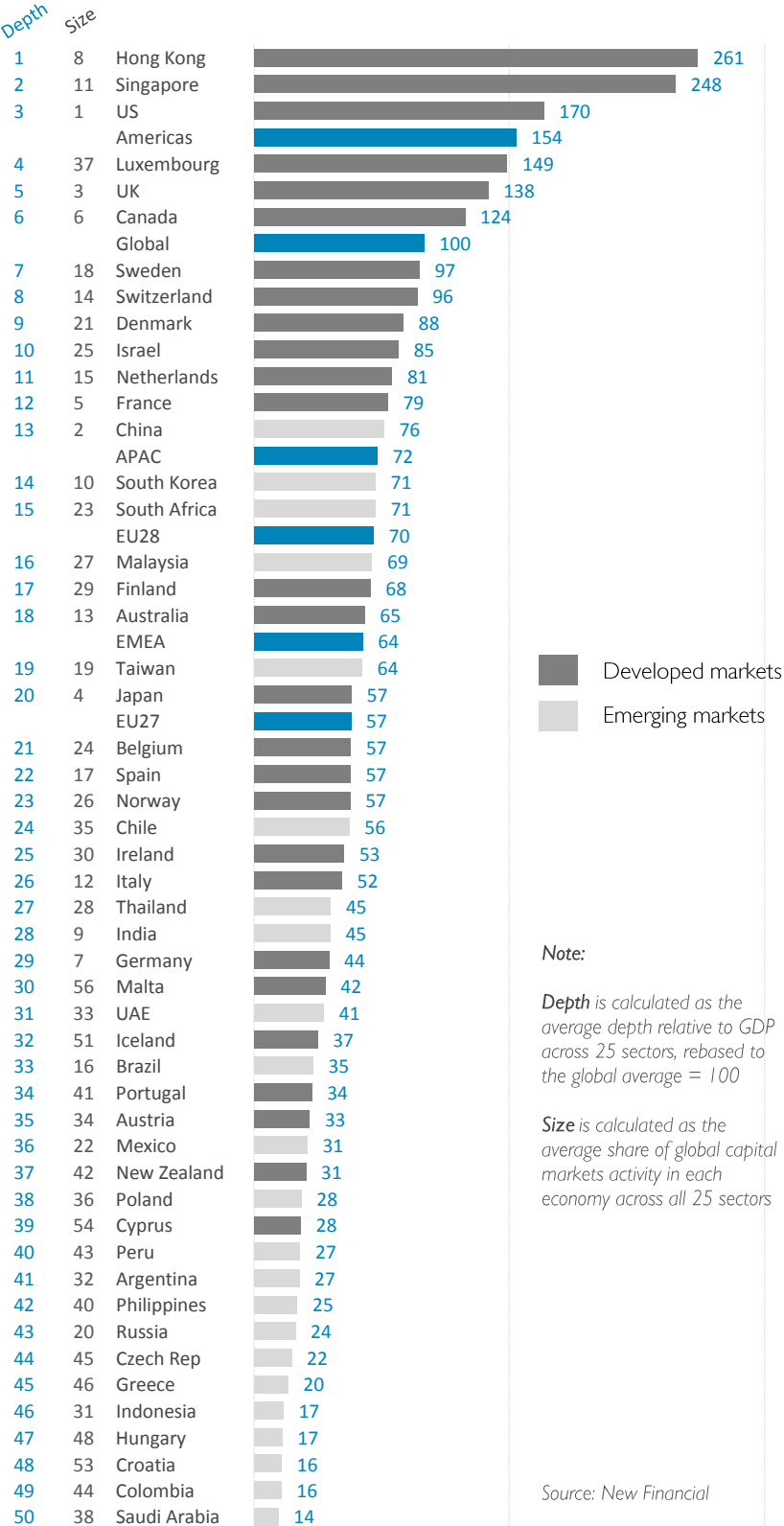
The US, UK and Canada all have capital markets that are both large and deep: between them they account for 55% of global activity. But in many markets there is a disconnect between the depth and size of capital markets. Some smaller economies - such as Luxembourg - have very deep but relatively small capital markets. While Luxembourg ranks fourth overall in terms of the depth of capital markets relative to GDP, it only has the 37th largest capital markets measured by its average share of global activity (just 0.2%).

And some large economies such as China, Japan and Germany, have capital markets that are very large but are under-developed relative to their GDP. China has the second largest but only the 13th deepest capital markets, while Japan has the fourth largest but only the 20th deepest capital markets. Developed markets dominate our ranking, filling the top 10, and taking 15 of the top 20 positions. The highest ranked emerging market is China in 13th place, just ahead of South Korea and South Africa.

There are several surprises in the rankings: Israel in 10th place earns one third of its ranking from its outsize venture capital sector (without which it would be mid-table at around the same level as Belgium). And India in 28th scores surprisingly well, boosted by venture capital, private equity and IPOs. Germany ranks 29th, behind the likes of India and Italy, with capital markets less than a third as deep as the UK.

Fig.2 The range in depth of capital markets by economy

Average depth of capital markets by economy relative to GDP across 25 sectors of activity in 2017. Rebased to 100 = global average



THE DEPTH OF CAPITAL MARKETS BY REGION

Regional differences

Our analysis also highlights stark differences in the depth of capital markets by region, and between developed and emerging markets. Overall, the 27 developed markets in our analysis have an average score for the depth of their capital markets of 124 (versus a global benchmark of 100). This shows that their capital markets are more than twice as deep on average relative to GDP as in the 33 emerging markets included in our analysis, which have an average score of 55 (see Fig.3).

It is perhaps not surprising that the Americas is the region with the deepest capital markets in the world, but our analysis shows that markets in the Asia Pacific have already overtaken EMEA in terms of depth and are catching up fast with the Americas.

Developed economies in the Americas (namely Canada and the US) have a combined score of 176 for the depth of their capital markets, which means they are nearly twice as deep relative to the size of the economy as the global average, and well over twice as deep as developed markets in Asia and EMEA.

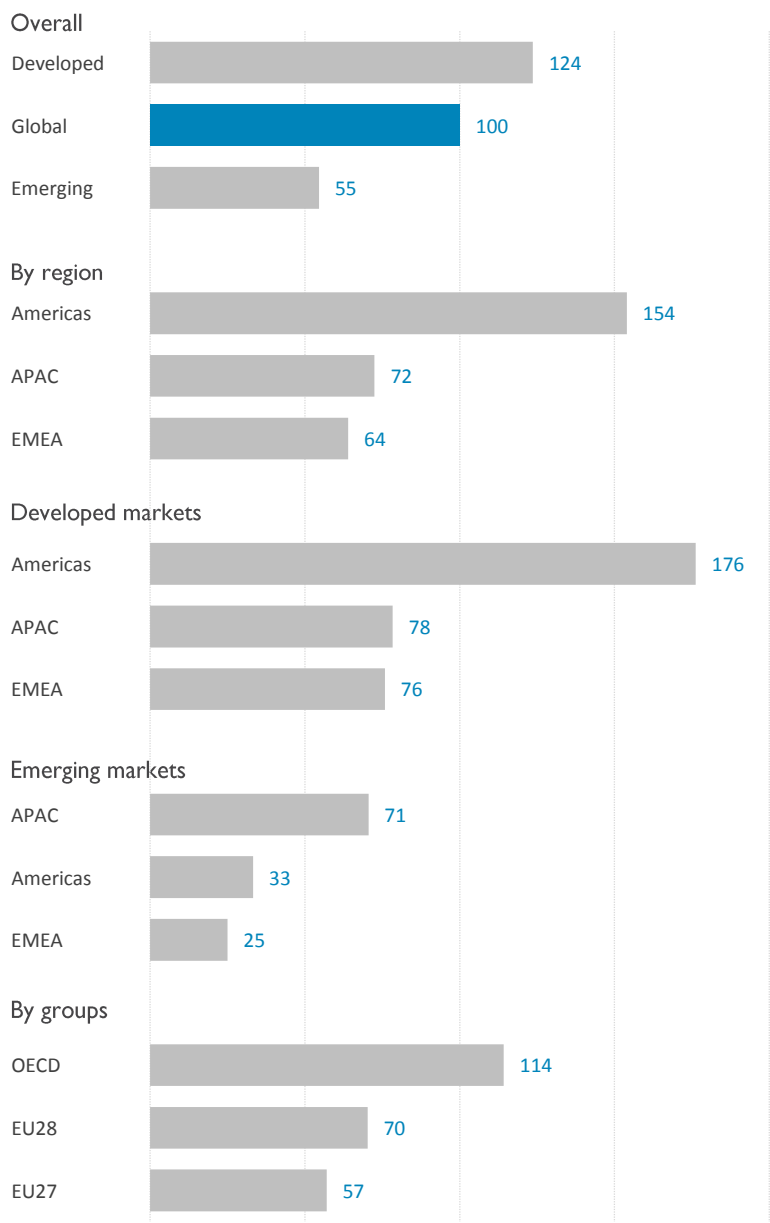
Markets in Asia have already overtaken EMEA in terms of depth: overall, the 13 economies in our sample from the Asia Pacific region have an average depth of 72, just ahead of the average of 70 for the EU and 64 for the 39 economies in EMEA. And emerging markets in Asia - dominated by China – are two to three times deeper relative to GDP than emerging markets in the Americas and EMEA.

The 37 members of the OECD have an average depth of 114 for their capital markets, and the overall the 28 member states of the EU have relatively underdeveloped capital markets: their average score of 70 is behind emerging markets in Asia and just 40% the depth of North America.

For reference, once you take the UK out of the EU, the average depth of capital markets in the rest of the EU is 57, little more than half the global average. This underlines the urgency of the EU's capital markets union initiative.

Fig.3 Global capital markets index by region

Average depth of capital markets by region across 25 sectors of activity in 2017
Rebased to 100 = global average



Source: New Financial

Note: in our regional analysis, our calculations only included those economies for which we have comparable data. In most sectors, we have data for all countries, but in a handful of sectors such as securitisation, the data is less complete.

CAPITAL MARKETS AROUND THE WORLD

Fig.4 Capital markets around the world

List of the economies included in our analysis of capital markets by region, divided into developed and emerging markets as per MSCI
* denotes frontier market



A wide dispersion

Our sample includes 60 economies around the world, which between them represent 93% of global GDP, 71% of the global population and between 95% and 99% of capital markets activity, depending on the sector.

We chose the economies in our sample based on our initial estimate of the size of their capital markets and - crucially - the availability of high quality and consistent data on capital markets activity across the 25 sectors we have included in our calculations. For 15 economies we managed to collect data in every sector (see the methodology on page 28) for another 35 economies we have between one and three gaps in the sector data, and for the remaining 10 economies we were unable to find consistent data for four or five sectors.

There is a clear regional bias in global capital markets activity: across all 25 sectors, the eight economies in our sample from the Americas account for an average of 49% of global capital markets activity, which in turn is dominated by the US. The 13 economies in the Asia Pacific region account for 27% of global activity, ahead of the 39 economies in EMEA that between them account for 24%.

We divided our economies into developed markets (27), emerging markets (24) and frontier markets (9), according to the MSCI classification. In our regional analysis, we folded frontier markets into emerging markets because they represent just 0.2% of global activity between them. Across the 25 sectors that we analysed developed markets account for 79% of global capital markets activity and emerging and frontier markets for 21%.

Over the past decade the Asia Pacific region has significantly increased its share of global capital markets activity. For example, the region's share of corporate bond issuance has doubled to 32%, and its share of global stockmarkets has increased by half to 34%. Our analysis suggests this trend is likely to continue over the next 10 years (see page 17).

How big and how deep are capital markets today?

In this section we analyse the size and depth of capital markets around the world today to get a better understanding of the relative weight of capital markets in different regions across the following sectors:

The size & depth of global capital markets	Page 11
Stockmarkets & IPOs	Page 12
Bond markets & corporate bond issuance	Page 13
Pension funds & pools of capital	Page 14
Bank lending & savings	Page 15

What we measured:

In each sector we divided the economies in our sample into three broad regions: Americas, EMEA (Europe, Middle East & Africa), and Asia Pacific.

Within each region, we have divided economies into developed or emerging markets as per the MSCI classification.

For each sector we have shown the value of activity in each region in dollar terms, and separately the value of activity in each region relative to the combined GDP of that region.

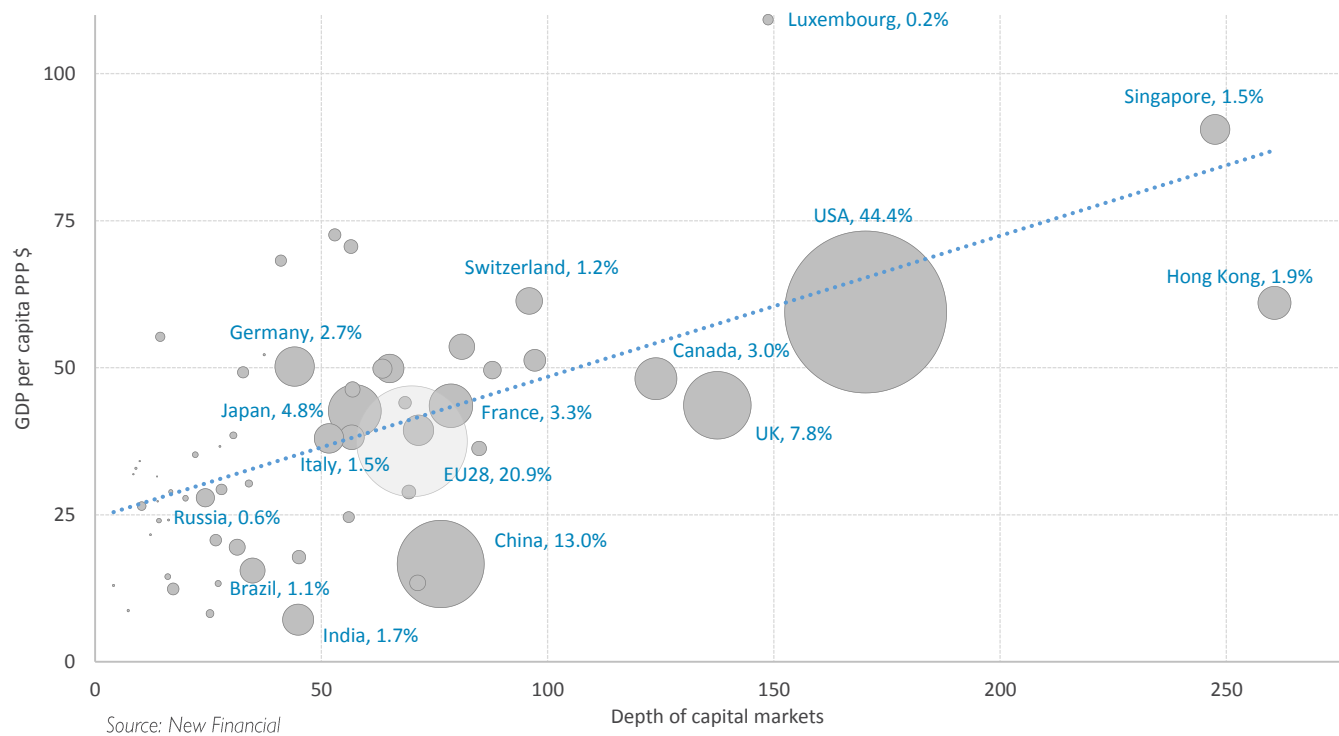
For a full methodology, see page 28.

For a detailed list of the relative depth of capital markets in different sectors and economies across our sample, see the Appendix on page 30.



Fig.5 Capital markets around the world

The relationship between the size and depth of capital markets, and GDP per capita at PPP
Note: the size of the bubble for each economy denotes the average % share of total capital markets activity in our sample across 25 sectors of activity



A wide dispersion

There is a clear relationship between the depth of capital markets and GDP per capita when expressed at purchasing power parity (ie. adjusted for local prices). These may be mutually reinforcing: higher GDP per capita means individuals have higher disposable income and the potential to save more; while deeper capital markets may help drive higher GDP per capita through the more efficient allocation of capital. For context, the size of the bubble for each economy shows the size of capital markets as measured by its average share of global activity.

Four things stand out. First, it shows that as a rule, wealthier economies have deeper capital markets. The average GDP per capita in PPP terms for the top 30 economies in terms of depth of capital markets is nearly \$47,000, whereas the average for the bottom 30 is around \$28,000. Over time emerging markets are likely to increase the size and depth of their capital markets as they become wealthier.

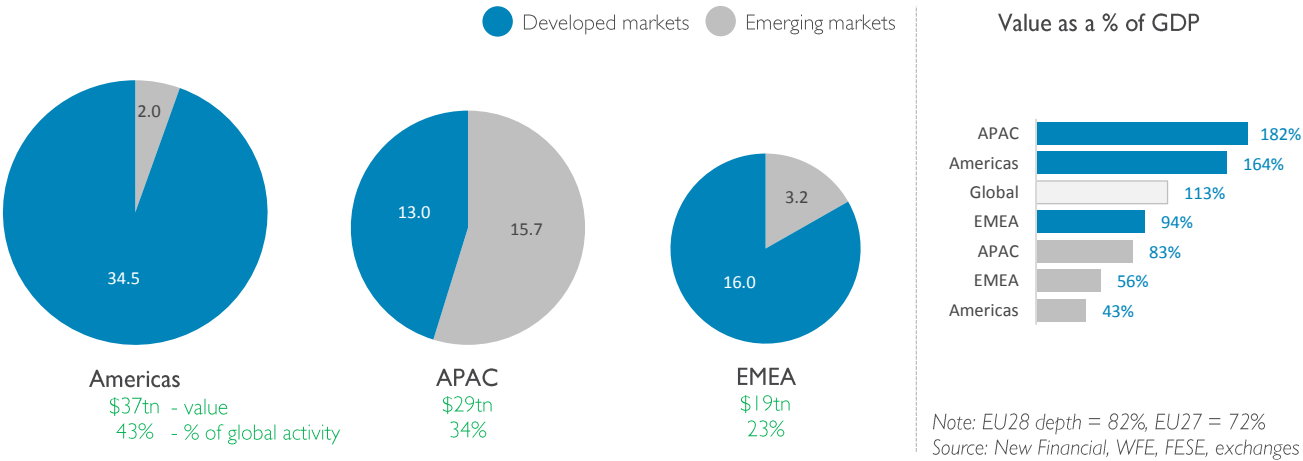
Second, in some economies with the deepest capital markets relative to GDP, the overall size of those capital markets is quite small. Luxembourg has the fourth deepest capital markets in the world relative to GDP but in terms of value they account for just 0.2% of global capital markets activity. And Hong Kong and Singapore, with the deepest capital markets in the world, account for less than 4% of global activity between them.

Third, the chart highlights the sheer scale of capital markets in the US, which account for over 44% of global markets activity across our 25 sectors. The size and depth of capital markets in the US are relatively balanced: it has the largest and the deepest capital markets of any large economy. The UK and Canada also have a good balance between size and depth (Canada has the sixth largest and sixth deepest capital markets). And finally, the chart highlights how some large economies such as China, Japan, France and Germany have very large but not very deep capital markets.

SIZE & DEPTH - STOCKMARKETS & IPOs

Fig.6 The size and depth of stockmarkets by region

The size and depth of stockmarkets by region in 2017 (value in \$ trillions, depth as a % of GDP)
Note: the data includes the market capitalisation of domestic listed companies

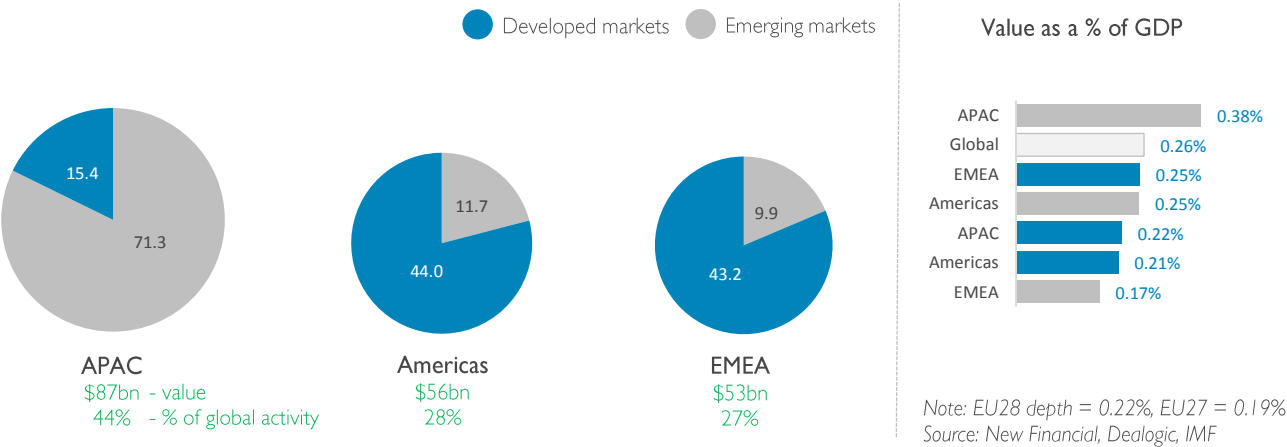


Stockmarkets

Stockmarkets in the Americas dominate global stockmarkets with a combined market value at the end of 2017 of \$37 trillion, or 43% of our global sample. The US stockmarket alone is worth \$32tn, or nearly 40% of global markets. Markets in the Asia Pacific region have a combined value of \$29tn and are more evenly split between developed markets (45%) and emerging markets (55%), with China accounting for 30% of Asian markets. The combined value of stockmarkets in the whole of EMEA of \$19.2tn is little more than half the size of the Americas. Relative to GDP, developed markets in the Asia Pacific are the deepest in the world with a combined value of 182% of GDP, roughly double the depth of developed markets in Europe. Stockmarkets in the EU represent 82% of GDP, but this will fall sharply after Brexit.

Fig.7 The size and depth of the IPO market by region

The size and depth of initial public offerings by region in 2017 (value in \$ billions, depth as a % of GDP)
Note: the data is based on the nationality of the issuer, not the exchange on which the shares are listed



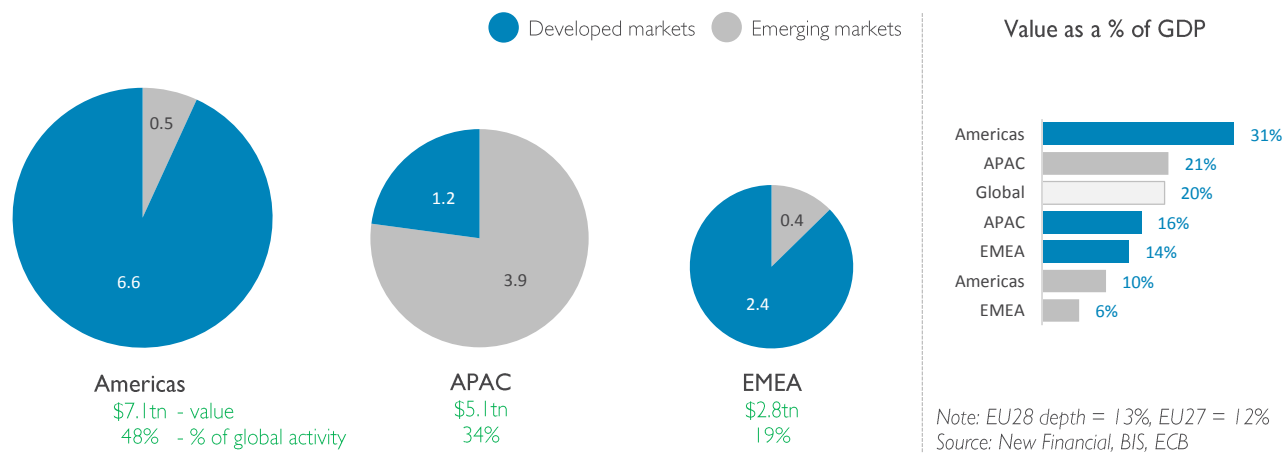
IPOs

In contrast, the IPO market is dominated by activity in the Asia Pacific region, with combined issuance of \$87bn in 2017 representing 44% of global IPO activity (although it's worth noting that global IPOs represent only around 2% of the value of global stockmarkets). Just over 80% of this volume came from emerging markets in Asia, with IPOs by Chinese companies alone accounting for just over half of all Asian activity. The Americas and EMEA are much more evenly matched when it comes to IPOs, with \$56bn and \$53bn of activity respectively, and in each region emerging markets accounted for around one quarter of volumes. In terms of depth, Asian emerging markets lead the pack, with IPO activity representing 0.38% of GDP. This is not far short of double the level for developed markets in the Americas.

SIZE & DEPTH - CORPORATE BOND MARKETS

Fig.8 The size and depth of the corporate bond market by region

The size and depth of outstanding corporate bonds by region in 2017 (value in \$ trillions, depth as a % of GDP)
(Note: this data only includes non-financial corporate bonds)

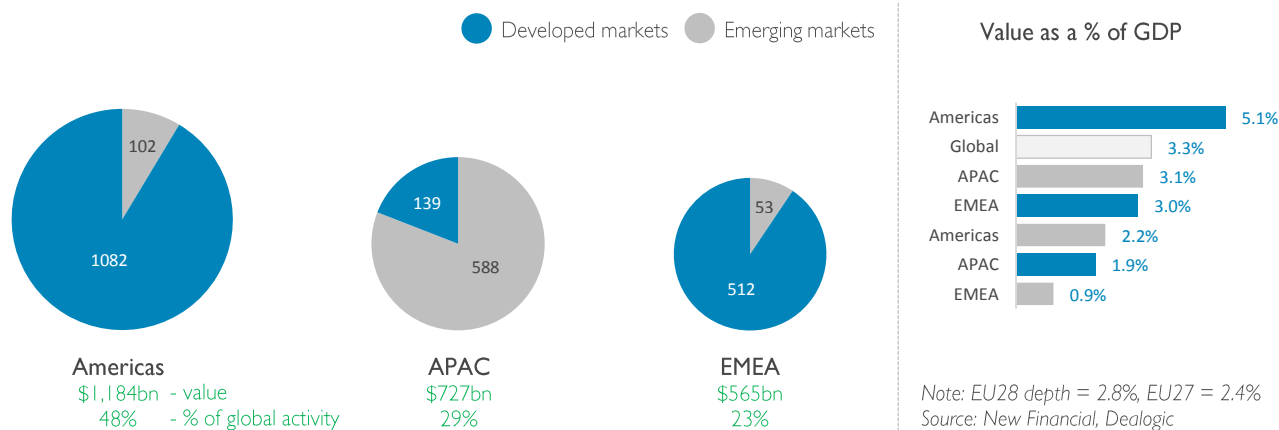


Corporate bond markets

The global corporate bond market is dominated by the Americas and in particular the US. The combined value of outstanding value of corporate bonds (excluding the financial sector) is \$7.1 trillion in the Americas, with over 85% of that coming from the US. This accounts for just under half of the global corporate bond market. Three quarters of the \$5.1tn in outstanding corporate bonds in the Asia Pacific region come from emerging markets (with just over half from China alone, which at \$2.8tn is the same size as the entire EMEA corporate bond market). Globally, the corporate bond market represents 20% of GDP: the depth of the corporate bond market in the US and Canada is twice that of developed markets in Asia and EMEA.

Fig.9 The size and depth of corporate bond issuance by region

The size and depth of corporate bond issuance by region in 2017 (value in \$ billions, depth as a % of GDP)
(Note: this data only includes non-financial corporate bonds)

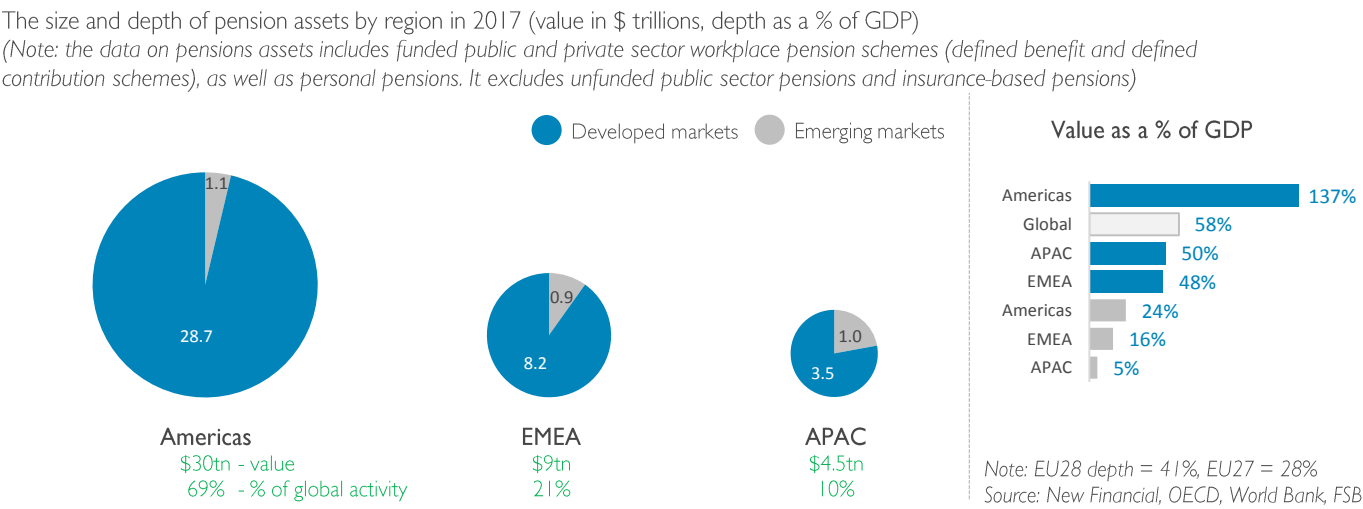


Corporate bond issuance

Companies in the Americas accounted for just under half of all corporate bond issuance in 2017 (including investment grade and high-yield bonds), raising just under \$1.2tn. More than 90% of this issuance was by US and Canadian issuers. Two thirds of the \$727bn issued by companies in the Asia Pacific region came from Chinese companies, who between them raised almost as much (\$481bn) as companies in developed markets in EMEA combined (\$512bn). Global issuance of corporate bonds was equivalent to 3.3% of GDP in 2017, with North America way ahead on 5.1%. Relative to GDP, developed markets in Asia are around two thirds as deep as the global average.

SIZE & DEPTH - POOLS OF CAPITAL

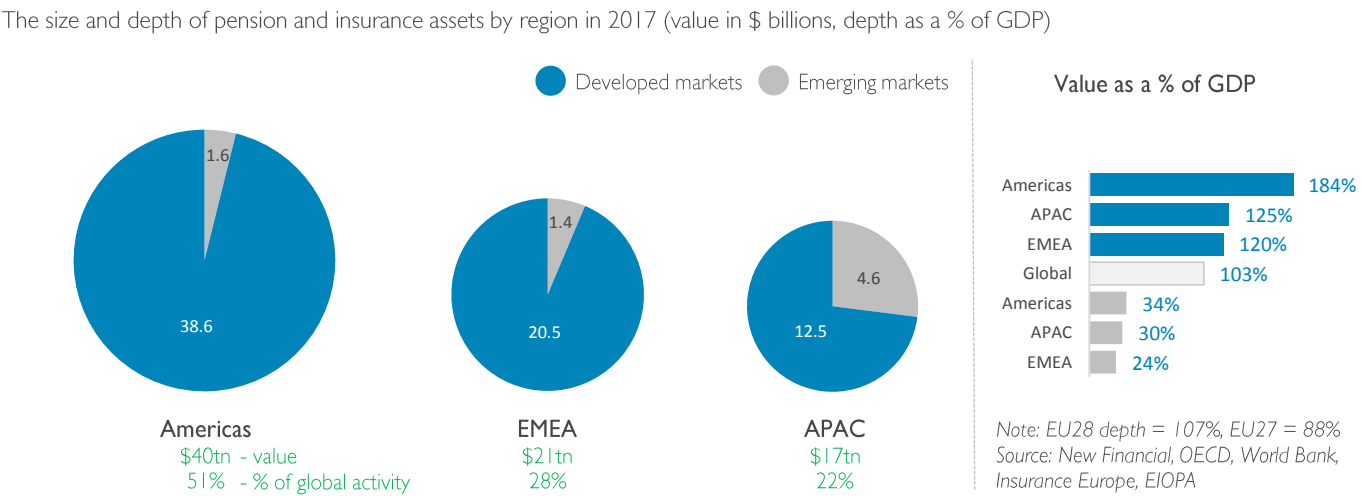
Fig.10 The size and depth of pension assets by region



Pension funds

The starting point for deep and efficient capital markets is large pools of long-term capital such as pension funds. The combined value of pension assets in the Americas of \$30 trillion is roughly three times the size of pensions in EMEA, which in turn are twice as large as in the Asia Pacific region. In terms of depth, the US and Canada are in a league of their own, with pensions assets worth 137% of combined GDP. This is more than double the level of developed markets in Europe and Asia, and more than 25 times higher than emerging markets in Asia. Global pensions are dominated by economies such as the US, Canada, the Netherlands and the UK with longstanding and highly-developed public and private sector workplace and personal pensions but as more economies around the world set up private pensions systems, this gap will eventually close. It is worth noting that given the range of different pensions systems around the world, direct comparison are difficult.

Fig.11 The size and depth of pension and insurance assets by region



Pools of long-term capital

If you include insurance assets, the global picture is a little more balanced. The combined value of pensions and insurance assets in the Americas of \$40tn is double the total for EMEA, which in turn is around one quarter larger than the Asia Pacific region. This adds up to a global total of \$79tn that can be invested in equities, bonds and other asset classes. In terms of depth, developed markets have a big headstart: in each region the combined value of pensions and insurance assets in developed markets add up to more than 120% of GDP. The depth of pools of capital in emerging markets ranges between 24% of GDP and 34%. In addition, the likes of the US and Canada have highly developed retail investment which means that only counting formal pensions and insurance assets understates the true size of the available pools of capital, but poor data consistency makes it very hard to accurately compare retail investment around the world.

THE BALANCE BETWEEN BANKS & MARKETS

Reliance on banks

One of the main benefits of more developed capital markets is that they diversify the sources of funding for companies, provide a ‘spare tyre’ for the economy when bank lending is squeezed, and act as a shock absorber for the wider economy.

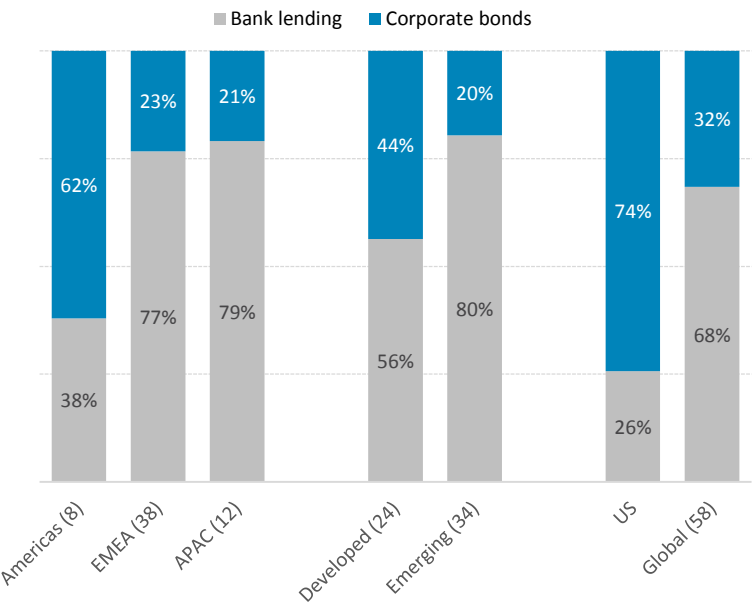
With the exception of North America, companies around the world are heavily dependent on bank lending for their funding (see Fig.12). For example, in the US bank lending accounts for just 26% of corporate borrowing, while corporate bonds make up 74%. In most regions around the world, the inverse is the case. In Europe and Asia, bank lending accounts for over 75% of corporate borrowing, and in emerging markets companies rely on banks for 80% of their borrowing.

If companies in the emerging markets reduced this reliance on bank lending to 70%, it would involve an increase in funding from the corporate bond markets of around \$6 trillion (more than double the current level). This reliance on banks also applies when it comes to savings and investments. One measure of the level of development of capital markets around the world is the extent to which individuals are prepared to invest their savings - which creates the pools of capital needed to develop capital markets - rather than keep them in the bank or hidden under a mattress.

Fig.13 shows how households in different regions allocate their financial assets (which excludes property). In the US, just 12% of household financial assets are in the form of cash or savings accounts, while 32% is in pensions or insurance products, and the remainder in other assets (mainly direct holdings in stocks, bonds or funds). In contrast, households in EMEA and Asia have 31% and 42% of their financial wealth in the form of bank savings and deposits respectively. If households in Asia and EMEA switched one third of their cash to investments, it would transfer more than \$12 trillion into long-term pools of capital. That’s almost as large as the value of the global corporate bond market.

Fig.12 The balance between bank lending and corporate bonds

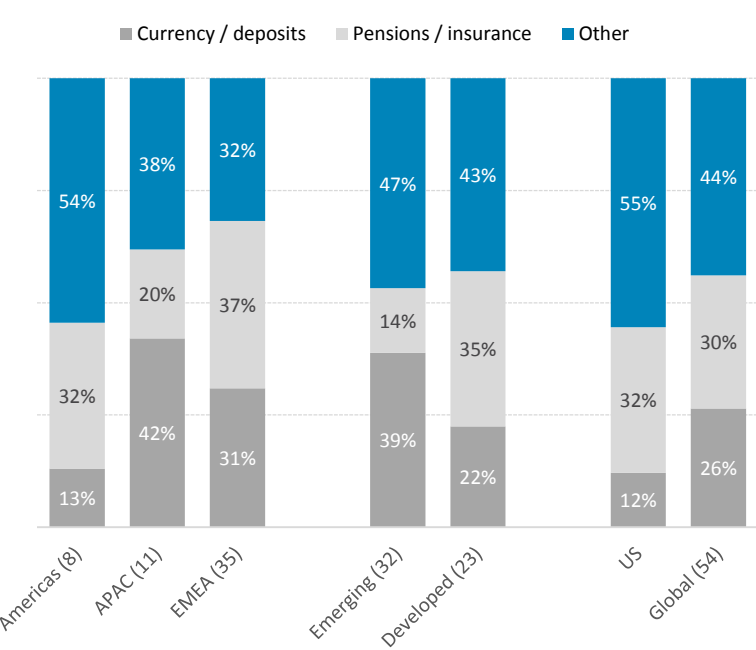
The value of bank lending and corporate bonds as a % of corporate borrowing by region in 2017



Note: number in brackets = number of economies in each region; data excludes Egypt and Taiwan

Fig.13 How households invest their assets around the world

The allocation of household financial assets by region in 2017 %



Notes:
- Number in brackets = number of economies in each region
- Other includes direct holdings of stocks, bonds, and funds, and unlisted equity, but poor data consistency means it is impossible to compare regions effectively
- Data excludes Egypt, Hong Kong, Philippines, Saudi Arabia & UAE
Source: New Financial analysis of data from BIS, ECB, World Bank, WFE, FESE, national exchanges

Measuring the growth potential in capital markets

In this section we estimate the growth potential of capital markets in different economies and regions around the world. These are not growth forecasts but indications of what could be achieved over the next 10 years based on a range of scenarios.

The changing shape of global capital markets Page 17

Pools of capital Page 18

Capital markets funding Page 19

Stockmarkets Page 20

Corporate bond markets Page 21

What we measured:

In each sector we present the headline growth opportunity in dollar terms and as a percentage increase on the current level of activity. We have also presented the share of potential growth over the next 10 years split by region and by developed and emerging markets.

In each sector we divided the economies in our sample into three broad regions: Americas, EMEA, and Asia Pacific. And within each region, we have divided economies into developed or emerging markets as per the MSCI classification.

We estimated the potential growth opportunity for capital markets in each economy over the next 10 years based on a combination of the historical annual growth rate in real GDP over the past 20 years, and the historical annual change in the depth of capital markets relative to GDP over the past 10 to 20 years (depending on data availability).

Of course, it is unlikely that emerging markets will be able to maintain their historic rate in GDP indefinitely so we ran three different growth scenarios. It is worth noting that the 20 year period over which we measured historic annual growth rates includes the economic fallout from the financial crisis, the dotcom crash and the Asian financial crisis.

Three scenarios:

We estimated the growth potential in different sectors in each economy based on three scenarios:

Conservative: what if the market depth remains the same relative to GDP as today, and real annual GDP growth continues at half the average annual rate over the past 20 years?

Middle: what if market depth continues to increase at half the historic annual rate at which it has grown relative to GDP, and real annual GDP growth continues at half the average annual rate over the past 20 years?

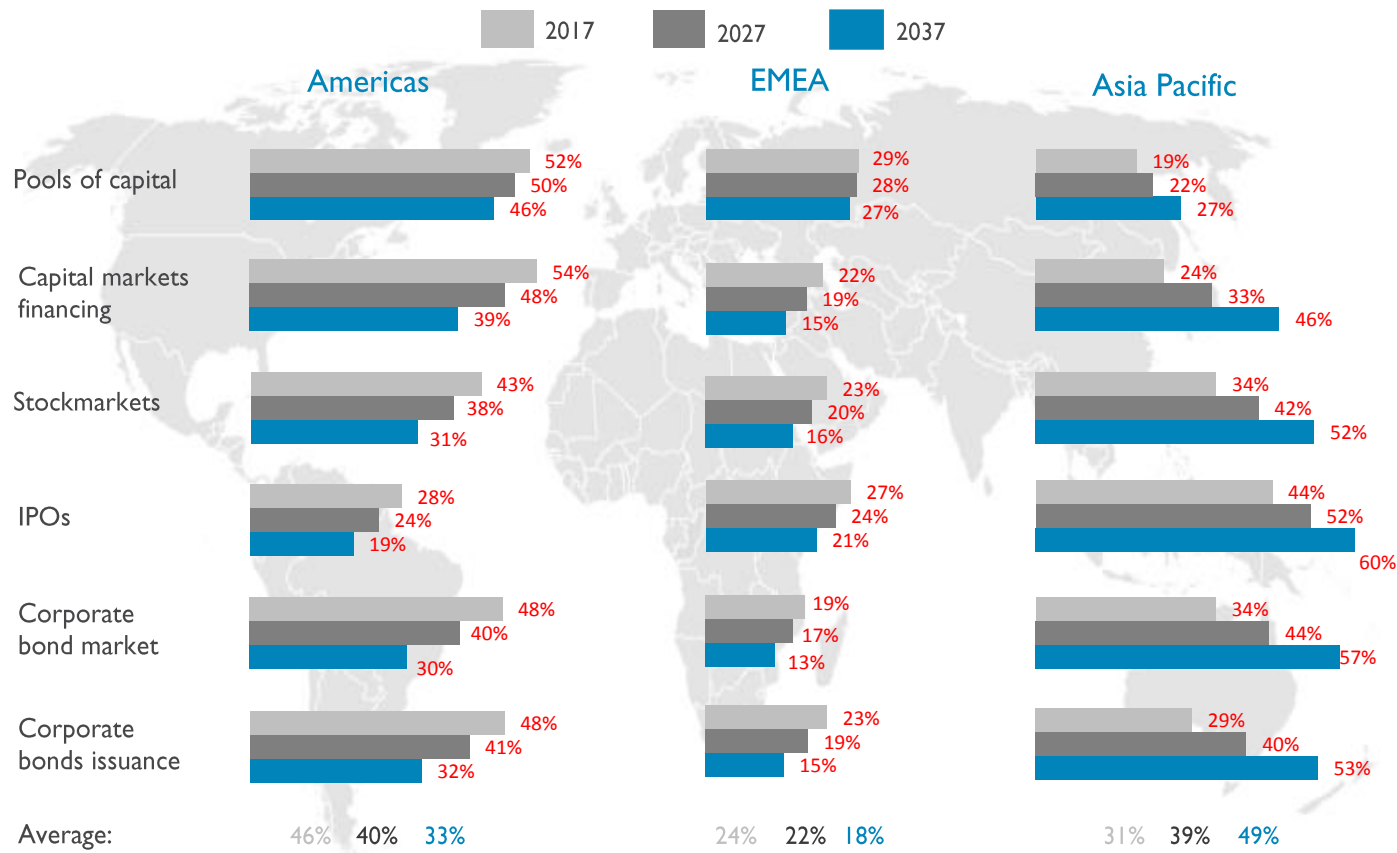
High: what if market depth continues to increase at the historic annual rate at which it has grown relative to GDP, and real annual GDP growth continues at the average annual rate over the past 20 years?

Our headline number for growth potential is the average of these three estimates, which we think is relatively conservative.



Fig.14 The changing face of capital markets

The regional share of capital markets activity in selected sectors today and the forecast share in 10 and 20 years.
Note: this chart does not represent the absolute size of capital markets activity but the changing balance of activity between different regions according to our analysis of potential growth based on the growth trends over the past 10 to 20 years.



A global shift

If the past 20 years are anything to go by, Asian markets are set to dominate the global capital markets over the next few decades. Using a selection of sectors where we have the most robust historical data and which we believe are broadly representative of the overall direction of capital markets, we estimate that the balance of power will swing decisively towards Asia over the next 10 to 20 years. The overall share of Asian markets will increase from an average of 31% today to 39% in 10 years' time and as much as 49% in 20 years if you extrapolate our analysis of potential growth out to 2037. We estimate that roughly half of this growth will come from China alone.

The biggest area of growth for Asian markets will be the annual flow of capital markets financing, which our analysis suggests will nearly double from 24% of global activity today to 46% in 20 years. If that sounds fanciful, note that our estimate assumes that growth in GDP and market depth will continue at around half the rate in future than the rate at which it has grown over the past few decades.

On average, on current trends, EMEA would shrink in relative terms from one quarter of global capital markets activity today to 22% in 10 years' time and just 18% by 2037. This underlines the urgency of the capital markets union initiative and wider efforts to develop capital markets in Europe. The Americas would shrink from 46% today to 40% on a 10 year horizon: some time around 2030, the Asia Pacific region would overtake the Americas in terms of global market share, and by around 2040 Asia would account for more than half of all global capital markets activity. (For a detailed analysis of how the barriers to developing deeper capital markets and how to address them, see the section on 'context and policy' on page 23).

GROWTH POTENTIAL: POOLS OF CAPITAL

A deeper pool

The relatively low depth of pools of capital in many markets around the world presents many challenges for policymakers and market participants alike, but it also represents a huge opportunity for growth that would bring significant benefits for individual economies.

Deeper pools of local capital would increase the opportunities for individuals to save towards their retirement, reduce the longer term pensions burden on public finances, and reduce the reliance in many economies on cross-border flows of capital to finance their growth.

We analysed the potential growth of pools of capital (that is, funded pensions assets, insurance assets and household financial assets excluding cash deposits) over the next 10 years in different economies and different regions on three scenarios based on historic growth trends over the past 15 to 20 years (see page 16 for a detailed explanation of these scenarios).

In Fig.15, we show the headline growth potential in the size of pools of capital in real terms over the next 10 years. It is important to note that this is not a forecast but more of an indication of what could be achieved.

Globally, pools of capital would increase by 31%, adding nearly \$24 trillion in today's money to the pool of long-term capital that could be invested in the global economy. Roughly 70% of this growth would come from developed markets (see Fig.16) with nearly 40% from the US and Canada.

The growth potential in Asia (\$7.7 trillion) is higher than in EMEA (\$6.4tn). In percentage terms, the growth potential in developed markets would be 25% compared with current levels, but emerging markets would grow by an average of 80%. Overall, over 40% of this potential growth over the next 10 years would come in the Americas (mainly Canada and the US), while one third would be in Asia and a little more than a quarter would be in EMEA.

Fig.15 The potential growth in pools of capital

The potential growth of pools of capital by region over the next 10 years in real terms based on an average of three scenarios (note: the figures in red denote the potential growth in \$ trillions)

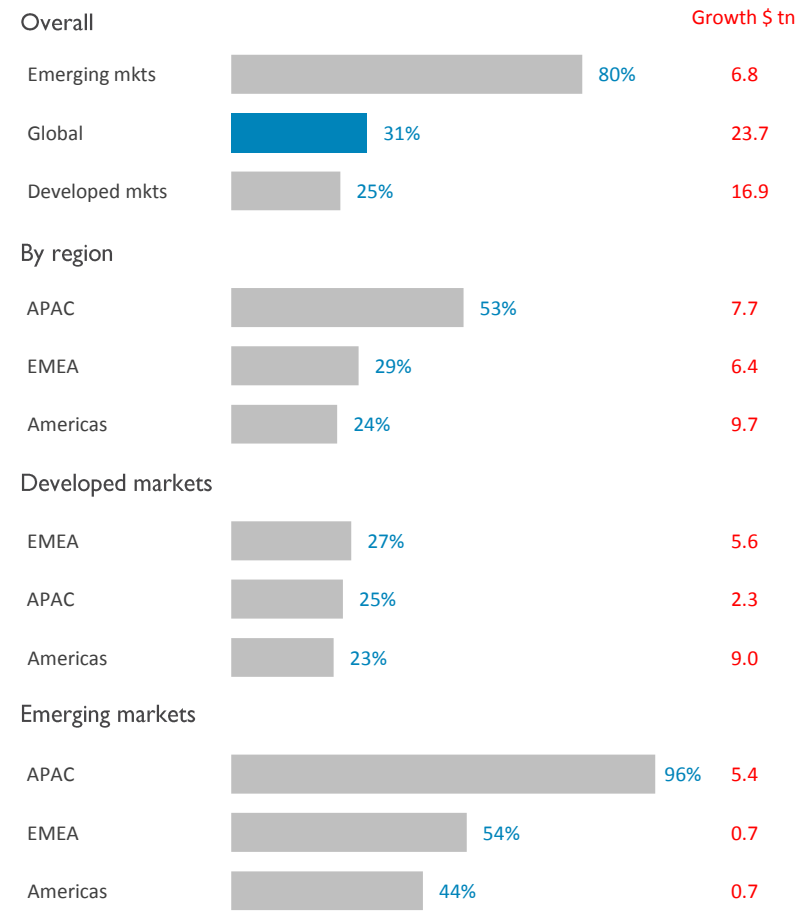
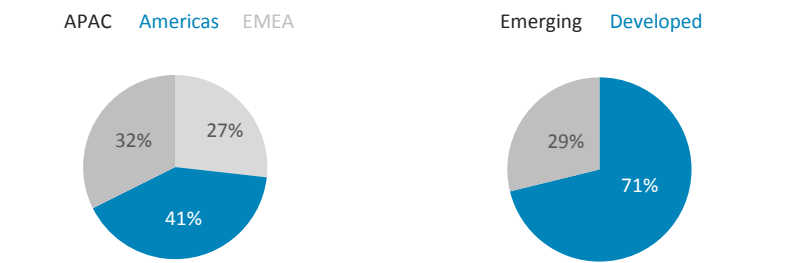


Fig.16 Where is the potential growth?

The share of potential growth over the next 10 years in pools of capital by region and by markets status %



Source: New Financial analysis

GROWTH POTENTIAL: CAPITAL MARKETS FINANCING

Driving growth

We took a similar approach in analysing the 10-year growth potential in the annual flow of capital markets activity. Using the same three scenarios we estimated the growth potential in the combined annual value of corporate bond issuance, equity issuance, leveraged loans and venture capital investment in different economies and regions around the world.

Fig.17 shows what this growth looks like in percentage terms in each region and in dollar value. We estimate that the combined global value of annual capital markets funding for companies would grow by \$3.3tn within 10 years in real terms, which represents an increase of 58% on current global activity of \$5.7tn a year.

This growth is more evenly split between developed and emerging markets with activity increasing by around \$1.6tn in each, although activity in emerging markets would increase at three times the rate of developed markets (120% vs 38%). Overall, Asian markets would grow three times faster than markets in the Americas or EMEA.

Roughly 90% of the growth in emerging markets would be in Asia, with China accounting for more than 80% alone. To put this in perspective, the growth in emerging markets in Asia of \$1.5tn would be nearly four times the growth in annual capital markets activity in the whole of EMEA (\$0.45tn).

Annual capital raising in emerging markets would more than double, and it would increase by 38% in developed markets. Activity in the US would increase by around 40% or just over \$1tn a year. In China and India, activity would more than double.

Overall, just under half of the global growth in capital markets financing would be in Asia (see Fig.18), not far short of four times the share of potential growth for EMEA of just 14%, and well ahead of 38% in the Americas

Fig.17 The potential growth in capital markets financing

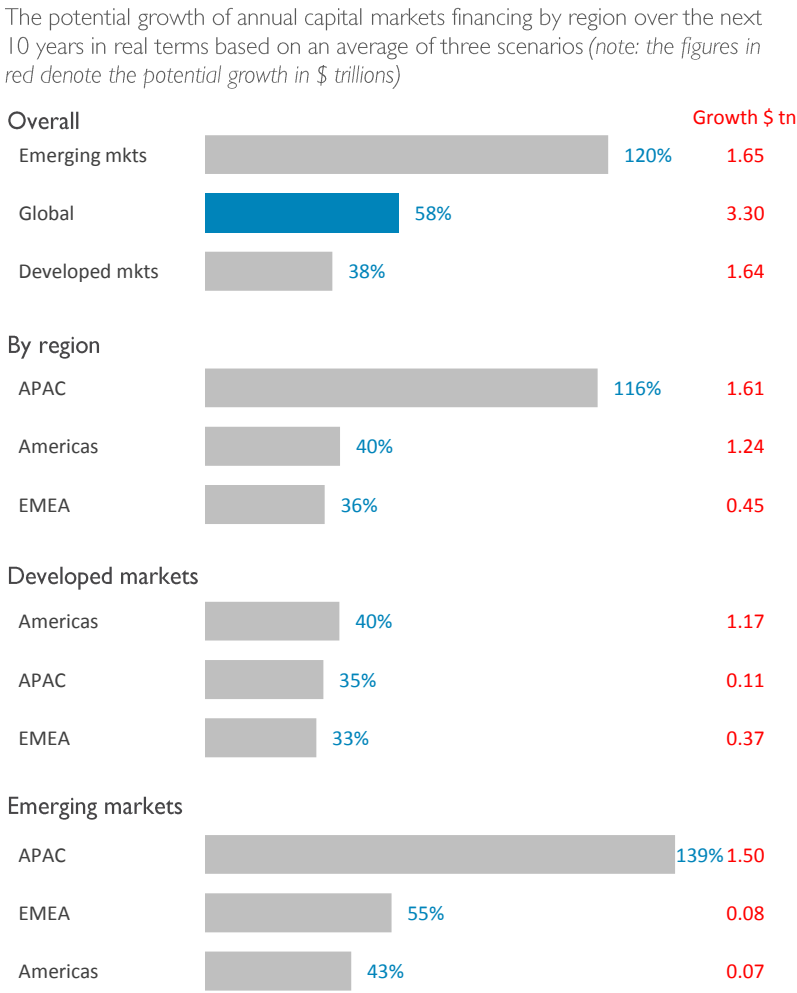
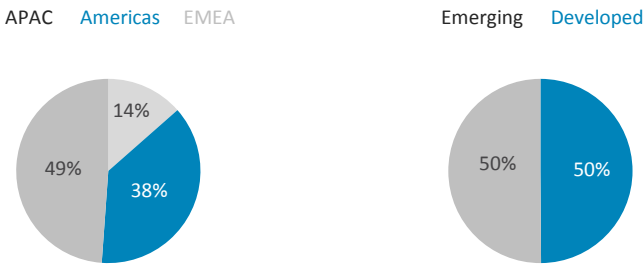


Fig.18 Where is the potential growth?

The share of potential growth in the next 10 years in capital markets activity by region and by market status %



Source: New Financial analysis

GROWTH POTENTIAL: STOCKMARKETS & IPOs

Full steam ahead?

With stockmarkets and corporate bond markets, we had access to a more consistent long-run dataset so were able to estimate the growth potential based on changes over the past 20 years. We applied the same three scenarios to estimate the growth potential in global stockmarkets over the next 10 years. This is not a forecast of stockmarket returns, but an estimate of the overall increase in the value of listed companies relative to GDP.

Fig.19 shows what the 10-year growth potential in stockmarkets looks like in percentage terms and in dollar value in different regions. We estimate that the combined value of global stockmarkets would increase by 38%, which translates into an increase of \$32tn in today's money (compared with \$84tn in 2017).

The majority of this growth (55%) would come from stockmarkets in emerging markets, which we estimate would increase in real terms by 83%, roughly four times the growth rate in developed markets of 23%. Stockmarkets in emerging markets in the Asia Pacific region would double in value, whereas markets in Europe would increase by less than one fifth.

In terms of dollar value, emerging markets would add more than \$17tn in growth, compared with \$14tn in developed markets. Not surprisingly, Asian markets would account for nearly two thirds of this global growth: their combined growth of over \$20tn would be nearly three times the increase in the Americas and five times the potential growth in EMEA.

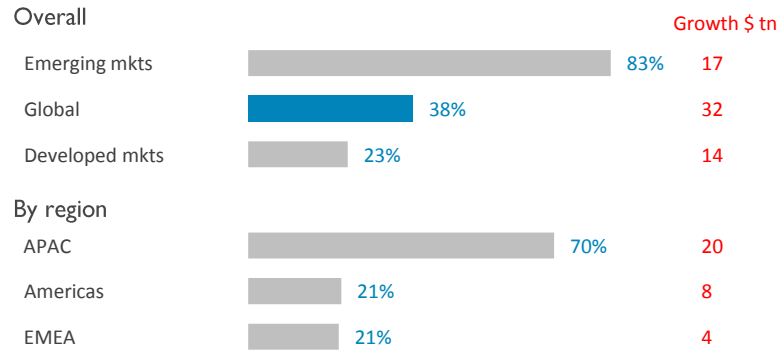
Asian markets also dominate the potential growth in IPO activity over the next 10 years: we estimate that global IPO issuance would increase in real terms by around 40% a year with an additional \$79bn of deals. Nearly 70% of this growth would be in Asia adding up to \$54bn in additional activity. This is four times larger than the potential growth in the Americas and five times larger than EMEA.

We estimate that emerging markets would account for three quarters of global growth.

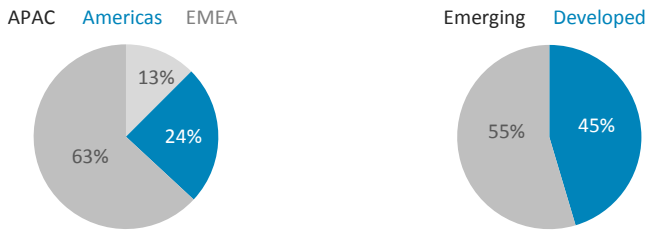
Fig.19 The potential growth in stockmarkets and IPOs

The potential growth in stockmarkets and IPO issuance by region in real terms over the next 10 years based on an average of three scenarios (note: the figures in red denote the potential growth in USD)

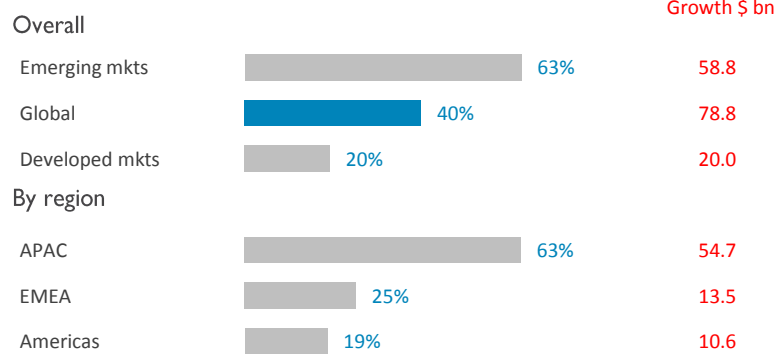
Stockmarkets



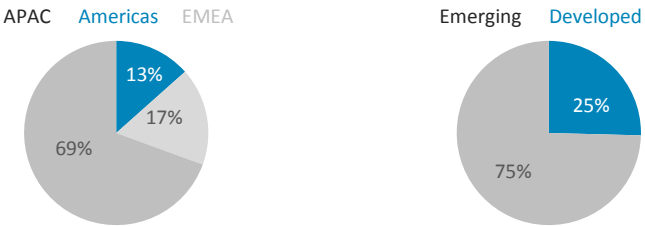
Share of growth:



IPOs



Share of growth:



Source: New Financial analysis

GROWTH POTENTIAL: CORPORATE BOND MARKETS

A fundamental shift

We estimated the growth potential in global corporate bond markets over the next 10 years based on a range of scenarios using data going back 20 years from the Bank for International Settlements and the ECB.

Fig.20 shows what the 10-year growth potential in corporate bond markets looks like in percentage terms and in dollar value in different regions. We estimate that the combined value of outstanding corporate bonds would grow by 50%, which translates into an increase of \$7.4tn in today's money (compared with just under \$15tn in 2017). Activity in the Asia Pacific would grow at roughly three times the rate of issuance in the Americas and EMEA.

The majority of this growth (66%) would come from emerging markets, which we estimate would more than double in real terms compared with growth in developed markets of around 24%.

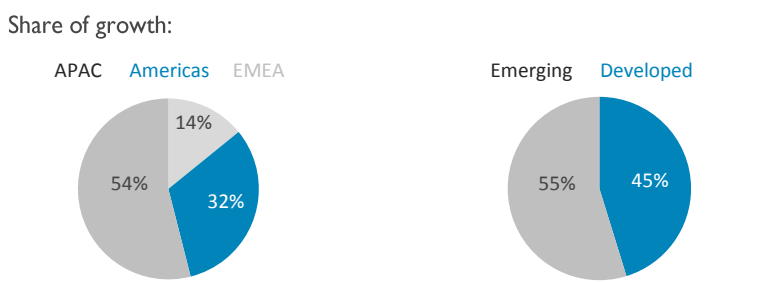
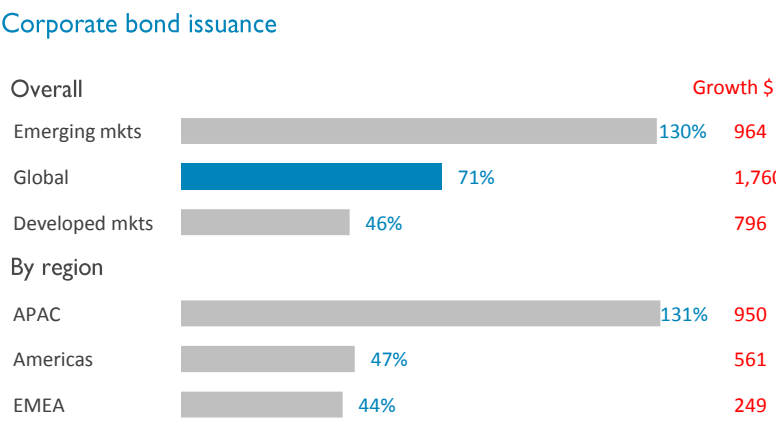
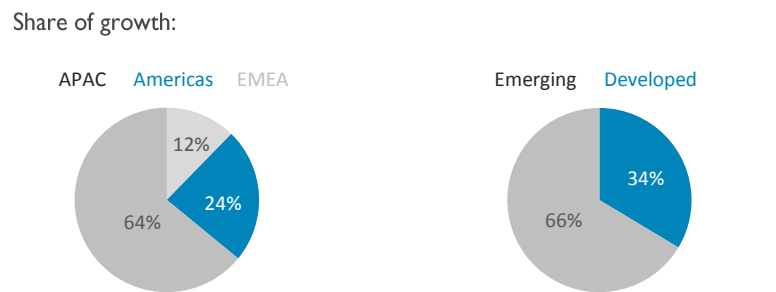
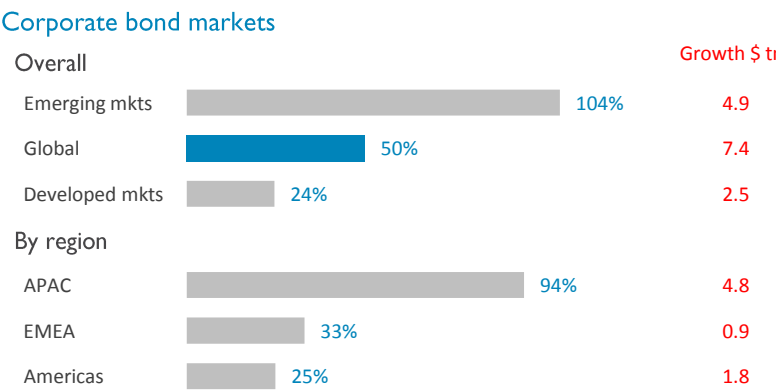
In terms of dollar value, emerging markets would add nearly \$5tn in value, compared with \$2.5tn in developed markets. Not surprisingly, Asian markets would account for nearly two thirds of this global growth: their combined growth of over \$4.8tn would be more than double the increase in the Americas and five times the potential growth in EMEA.

Asian markets also dominate the potential growth in corporate bond issuance over the next 10 years: we estimate that annual global issuance would increase in real terms by around 70% with an additional \$1.8tn of deals. Just over half of this growth would be in Asia (\$950bn a year). This is nearly double the potential growth in the Americas and four times larger than in EMEA.

We estimate that issuance in emerging markets would more than double in real terms, compared with growth of just under 50% in developed markets. Overall, 55% of the global growth in corporate bond issuance in 10 years would come from emerging markets.

Fig.20 The potential growth in corporate bond markets

The potential growth in corporate bond markets and corporate bond issuance by region in real terms over the next 10 years based on an average of three scenarios (note: the figures in red denote the potential growth in USD)



Source: New Financial analysis

Common challenges & potential solutions

In this section we look at the wider context of capital markets, the main barriers to the growth of capital markets in different regions around the world, and the measures that policymakers can take to address these common challenges.

The wider business, legal & regulatory environment Page 23

Common challenges & potential solutions Page 24

By theme:

- Barriers to investment and access to long-term capital
- Barriers to intermediaries and financial markets participants
- Fragmented market infrastructure
- Political, legal and regulatory concerns
- Technology and digitisation

By sector:

- Funding for start-ups and SMEs
- Equities markets
- FX markets
- Fixed income markets
- Derivatives markets

We are grateful to the GFMA and its three constituent trade associations AFME in Europe, ASIFMA in Asia and SIFMA in the US for this analysis.



THE WIDER LEGAL & REGULATORY ENVIRONMENT

The bigger picture

Capital markets do not exist in a vacuum: they rely on a thriving private sector, an efficient and strong legal system, and high levels of trust in the rule of law. We created a composite index of 10 different measures of the wider business, legal and regulatory environment in different economies and compared it with the relative depth of their capital markets.

Developed economies dominate this ranking with Denmark, Sweden, Finland and New Zealand at the top with an average score across the 10 indices of 82% (see Fig.21, which shows the scores and ranks for the top 20 economies). The UK and US ranked ninth and tenth respectively with scores of 81%, and Singapore and Hong Kong were the only two Asian economies to make it into the top 20.

As a rule, the scores and rankings for emerging markets were much lower: China ranked 41st out of the 60 economies with an average score of 60%, Russia was 53rd on 52%, just ahead of Brazil with 51%.

We then plotted these rankings against our ranking of the depth of capital markets (see Fig.22) and found a clear correlation between the depth of capital markets and the wider business, legal and regulatory environment. Broadly speaking, economies with deep capital markets such as Hong Kong, Singapore, the UK and US, score highly in the ranking of the wider business environment (in the top right of the chart), while economies with a less developed capital markets have a lower quality business environment (in the bottom left).

The main outliers are New Zealand, which ranks 4th for business environment but only 37th for the depth of its capital markets, Germany (6th for business environment; 30th for capital markets), and China (14th for capital markets; 41st for business environment). Egypt is the bottom of both rankings. See page 24 for some policy recommendations to improve the wider business, legal and regulatory environment to support the development of capital markets.

Fig.21 The wider business, legal and regulatory environment

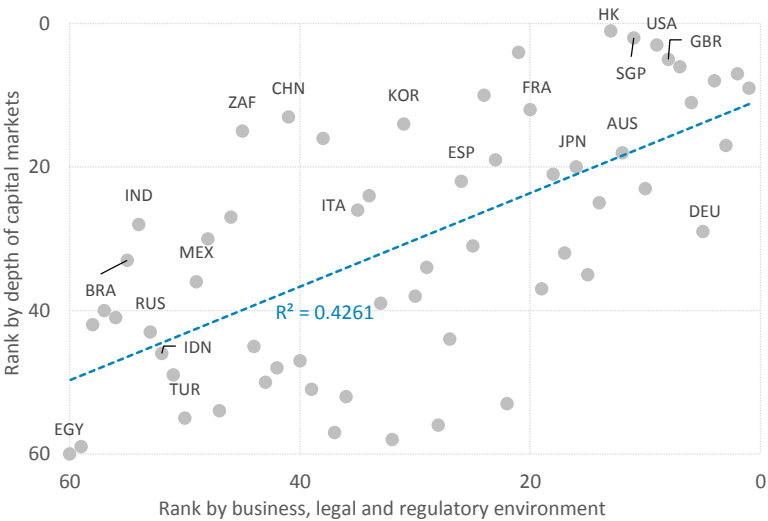
Top 20 ranking of the wider business, legal and regulatory environment based on a range of indices of non-financial metrics

Rank	Economy	Average score %	Business environment Rank 1-60	Government & regulation Rank 1-60
1	Denmark	82%	11	2
2	Sweden	82%	6	4
3	Finland	82%	14	1
4	New Zealand	82%	5	7
5	Switzerland	81%	1	15
6	Germany	81%	10	6
7	Netherlands	81%	12	5
8	Canada	81%	7	8
9	UK	81%	4	10
10	US	81%	2	14
11	Norway	81%	15	3
12	Singapore	80%	8	11
13	Australia	80%	9	12
14	Hong Kong	79%	3	19
15	Ireland	78%	13	18
16	Austria	77%	16	16
17	Japan	77%	20	9
18	Iceland	76%	19	13
19	Belgium	75%	23	17
20	France	74%	17	20

Business environment includes: Global Entrepreneurship Index - GEDI; Ease of doing business index - World Bank; Global Competitiveness Index - WEF; Human Development Index - UN; Quality of Infrastructure Index - World Bank; Economic Freedom Index - Heritage Foundation
Government & regulation includes: Perceived Corruption Index - Transparency International; Rule of Law Index - World Justice Project; Strength of Government Institutions Index - World Bank; Quality of Insolvency Regime Index - World Bank

Fig.22 The importance of the wider environment

The correlation between the relative depth of capital markets and relative quality of the wider business, legal and regulatory environment



Common challenges

Many economies around the world face common obstacles to the development and growth of their capital markets. This section focuses on five common challenges with recommendations and policy proposals to address them:

1) Barriers to investment and access to long-term capital

Capital markets depend on deep pools of long-term capital and a mix of institutional and retail investors, both foreign and domestic, who can reliably and efficiently access a diverse range of products and markets. Growing pools of institutional capital, expanding what they can invest in, expanding the investor base and investor education are all critical to the growth of capital markets. There is significant space to grow, for example, in European and Asian pension assets, which are only a fraction of the size of those in the United States relative to GDP (European pension assets are one third the size relative to GDP as the US, while Asian pensions are just one eighth as deep), and in promoting the movement of household savings away from low-yield conservative instruments like cash and deposits.

Recommendations for developing pools of long-term capital include:

- Foster household investment by providing incentives for retail investors to save for their retirement and promoting access to diversified asset allocation to maximise risk-adjusted returns. Policymakers should encourage private pension funds through appropriate tax incentives;
- Focus on promoting and maintaining high levels of investor protection and transparency through strong regulatory frameworks;
- Encourage greater retail participation in capital markets through financial education and improved financial literacy to expand pools of capital and reduce the reliance on bank deposits;
- Facilitate investment by pensions funds and insurance companies in a wider variety of assets which thereby allow them to choose optimal portfolios based on their investment horizons and risk profiles;
- Ensure fair and reasonable access for investors in domestic markets, which will allow issuers to tap global pools of capital. Where applicable, seek to streamline and harmonise access programs and passporting regimes for foreign investors;
- Devise a suitable regulatory framework to facilitate institutional investors and high net-worth individuals to invest in unlisted SMEs and venture capital funds as well as the capital market;
- Simplify, clarify and make consistent domestic tax systems with international standards, including capital gains, interest, VAT and withholding taxes; and
- Address fragmentation across jurisdictions for requirements on funds' marketing, registration, fees and reporting that restrict funds' scale and efficiency, protect national players, reduce competition and increase costs.

2) Barriers to financial markets participants

Capital markets enable a more efficient and stable form of borrowing for corporations than bank lending. The use of debt capital markets is more prevalent in the US, with around 75% of corporate borrowing coming through the debt capital markets versus 25% from bank lending. In most other developed regions and emerging markets this is reversed.

2) Barriers to financial markets participants (continued)

Heavy reliance on bank lending can be inherently riskier than using credit provided via capital markets, as bank lending can be more cyclical in nature. This was especially the case after the global financial crisis, with overall levels of bank lending in many economies dropping in absolute or real terms. It is critical that companies have easy access to capital markets as an additional source of funding.

Policies to support the capacity of capital markets to support economic growth globally include:

- Undertake cumulative impact assessments of post-crisis reforms to understand how regulations have impacted the economics for providers of primary and secondary market capital market products, and recalibrate where changes have gone too far in adversely impacting market efficiency and liquidity;
- Establish national tax policies conducive to issuers and investors in securities.
- Promote a more entrepreneurial approach to growth companies and risk capital;
- Harmonise legal documentation to global standards for issuers, intermediaries and investors;
- Address market access, ownership and level playing field limitations for foreign institutions' activities in domestic markets, such as challenges in acquiring bond underwriting licenses;
- Harmonise implementation of international standards such as the Basel III framework;
- Adhere to the [GFMA Regulatory and Supervisory Consistency Principles](#) to ensure regulatory and supervisory convergence.

3) Fragmented market infrastructure

A fragmented market infrastructure reduces liquidity and raises the cost and complexity of investing, which can deter domestic and international investors. Jurisdictions with less-developed or smaller capital markets can benefit from regional cooperation and shared infrastructures like the EU's Capital Markets Union, the Pacific Alliance's Mercado Integrado Latinoamericano (MILA) or the Stock and Bond Connects between Hong Kong and Mainland China. Smaller markets also need help building or leveraging existing infrastructures that can connect them to more developed markets in order to improve access to global investors by incorporating global standards and best practices. Among the ways to accomplish this are:

- Continue to develop and leverage financial market infrastructures (trading platforms, alternative trading systems, central clearinghouses, and central securities depositories) to simplify trading and ensure appropriate levels of liquidity. Consider regional collaboration and regional structures or utilizing low cost but high-quality international infrastructure;
- Create post-trading systems that are integrated, harmonised, low-risk and low-cost, and allow the use of omnibus structures to create greater efficiency;
- Encourage the use of custodians to offer operational services to investors to facilitate their participation in the market;
- Facilitate the provision of reliable high-quality data in capital markets, correlated to appropriate transparency requirements that do not destroy liquidity; and
- Adhere to the [GFMA Market Transparency Principles](#)

4) Political, legal and regulatory concerns

Capital markets are predicated on legal certainty and fairness for all investors, as trust in the political and regulatory regimes of a jurisdiction are fundamental to efficient and liquid markets. The threat of politically-motivated interventions and unpredictable or non-transparent legal and regulatory regimes make investors, particularly foreign, uneasy about entering a market and will limit the international investment needed to build market depth. Policymakers should make it a priority to:

- Ensure the rule of law for all market participants in a fair and transparent manner;
- Promote and maintain efficient and aligned bankruptcy, insolvency and resolution regimes;
- Ensure proper regulatory consultations and transparency in the development and enforcement of regulations so there is close private and public cooperation to ensure workability;
- Focus on promoting and maintaining high standards of corporate governance of listed and private companies;
- Focus on promoting and maintaining high levels of transparency and reliability of auditing and accounting standards to increase the confidence of investors; and
- Amend employment laws that unduly impact business decisions to facilitate corporate restructuring and address labour market practices which hinder mobility and entrepreneurial growth.

5) Technology and digitisation

The digital revolution is here and technologies such as artificial intelligence, blockchain, cloud computing and big data are already reshaping and transforming activities in capital markets. Regulators and policymakers need to keep up with developments in fintech and find ways to facilitate innovation and not create unnecessary barriers to new companies or to incumbents who adopt new technology, whilst at the same time protecting market stability and integrity. Regulators also need to collaborate across borders to ensure they are allowing companies including those in their home markets to develop the economies of scale to be competitive in a global marketplace. Policymakers should:

- Enable firms to leverage new technologies when developing new products in order to leapfrog more mature markets with legacy systems in place;
- Facilitate dialogue between regulators and firms developing or employing fintech solutions to help develop practical and workable regulatory frameworks;
- Explore how technology can streamline regulatory compliance to cut costs for firms ('regtech') and how it can improve monitoring and enforcement opportunities for regulators ('suptech');
- Ensure a level playing field for all market participants by basing regulation on risks rather than on the technologies used;
- Employ regulatory frameworks for use of technology that are principles/outcome-based and technology neutral, so as not to impede development with overly technical requirements;
- Cooperate with policymakers and harmonise standards and practices across borders to ensure technology solutions are interoperable and can work across jurisdictions;
- Ensure the viability of cross-border data flows, processing and storage that are critical to the proliferation of fintech solutions (while balancing this against appropriate protection of individual data privacy); and
- Promote suitable cybersecurity and data protection practices.

Recommendations on specific market sectors:

Start-ups, pre-IPO companies and SMEs:

Develop a more entrepreneurial approach to start-ups, growth companies and risk capital. Specifically, create appropriate frameworks to encourage retail and institutional participation in the funding of SMEs; set up business angel networks including cross-border to fund start-ups; treat high net worth individuals as professional investors and allow them more flexibility in funding start-ups including through venture funds; and adopt an appropriate tax regime to support investment of early stage companies and start-ups.

Equities:

Accessible, fair, efficient and orderly equity markets are essential to continued growth in all markets. As providers of long-term funding, equity markets facilitate the allocation of international and domestic capital to the drivers of growth. Globally competitive cost structures and regionally consistent regulatory regimes will serve to encourage future development across jurisdictions.

A basic requirement for healthy market functioning is accessibility to investors; however, not all jurisdictions provide equal access to their equity markets. Issues frequently include: ownership limits, ownership identifiers, gross settlement, underdeveloped stock borrowing environments, investment quotas, restrictions on direct market access, no or inefficient block trading, ease of trading suspensions, and no circuit breakers.

FX:

FX markets across jurisdictions should strive to adopt international standards and practices, and address current roadblocks to market development. Issues such as excessive regulation, the introduction of centralized clearing and unnecessary margin requirements, lagging development in electronic trading including through competition, restrictions on the development of products including options and forwards, and a lack of currency convertibility all hinder the growth of FX markets.

Fixed income:

Several factors will encourage accelerated development in the bond markets: adoption of established international standards including for prospectuses, market friendly book building process, resolving retail market access issues, harmonizing legal documentation, implementing consistent and effective regulatory and legal environments, levelling playing fields for all participants including foreign, freeing information flow, creating a risk free benchmark yield curve, developing a credit culture, changing the buy to hold culture, creation of a liquid classic repo market, and improving the bankruptcy, insolvency and resolution regimes. Specific but appropriate regimes and incentives may also be required to develop certain products such as sustainable finance, municipal bonds, securitization, covered bonds, trading of non-performing loans, distressed debt, infrastructure bonds, etc.

Derivatives:

Liquid derivatives markets are essential to create deep capital markets in both debt and equity markets in order that participants can hedge their risks. For derivatives markets to continue to grow, policymakers should address legal uncertainties and strengthen contract enforceability, manage extraterritoriality issues stemming from major regulators, prevent fragmentation of national or regional Central Counter Parties (CCPs), embed the recognition of close-out netting in domestic law and accelerate development of OTC interest rate, currency, commodity, equity and credit derivatives markets.

Our sample:

This report measures the size, depth and growth potential in 60 economies around the world including all members of the G20, OECD and EU28. We divided economies into developed, emerging or frontier markets based on MSCI definitions.

Our dataset:

We collected data on 25 sectors of activity in eight broad groups to measure the value of activity in each economy:

- **Pools of capital:** funded pensions assets, insurance assets, household financial assets (exc pensions, insurance & deposits)
- **Equity markets:** stockmarket value, value of initial public offerings, secondary equity issues, convertibles
- **Bond markets:** bond market value, corporate bond market value, value of high- yield bonds, investment grade bonds, corporate bonds relative to bank lending
- **Leveraged loans & securitisation:** leveraged loans, value of outstanding securitisation, securitisation issuance
- **Assets under management:** assets under management
- **Corporate activity:** M&A by target nationality, domestic M&A, M&A by acquiror nationality
- **Private equity & venture capital:** private equity deals, private equity fundraising, venture capital deals
- **Trading:** Equities trading, FX trading, OTC derivatives trading

After initial consideration, we decided not to include the assets of sovereign wealth funds and the value of investment funds by domicile in our sample, because the very high values in a small number of economies would distort the overall rankings.

Sourcing:

Where possible, we used datasets with a high level of consistency and comparability across a large number of the economies. These included public sources such as the BIS, ECB, Eurostat, IMF, OECD or World Bank, or private sources such as Dealogic. National and regional trade associations, such as AFME, ASIFMA, AVCJ, EFAMA, Invest Europe, and SIFMA, provided valuable regional data, and we sourced other data from research by Allianz, Preqin and S&P, among others. In cases where global or regional data was not available, we used central banks, national statistical authorities and regulators to fill in remaining gaps. For all sectors we used the year 2017 as a reference. For sectors where we were unable to source high-quality comparable data for 2017, we made estimates based on a range of sources and previous years. Overall, we found data for 95% of our 1,500 potential datapoints, and over 90% of that data was from comparable sources.

Our rankings:

For each metric, we measured the value of activity as a percentage of GDP in each economy in 2017. To enable a comparison in depth between the different sectors we rebased these percentages in each sector to the EU average, with 100 representing the average depth of activity relative to GDP in the EU in 2017. We used the EU as our benchmark for the sake of continuity as we have already developed a comprehensive and long-run dataset for EU capital markets. To reduce the impact of outliers, we capped the values for individual sectors for each economy at two standard deviations from the average score.

The overall ranking is the average of these scores across 25 sectors. We then adjusted these scores to the global average. The average score across all 25 sectors for the EU was 100, and the global average was 131, which means global capital markets are nearly one third deeper relative to GDP than the in the EU. We rebased our headline rankings to 100 = the global average, meaning that an economy with an overall score of 200 has capital markets that are twice as deep relative to GDP as the global average, and an economy with a score of 50 has capital markets that are half as deep.

Growth potential:

We estimated the growth opportunity across the different sectors for each economy in a range of 'what if?' scenarios::

Conservative: what if the market depth remains the same relative to GDP as today and real GDP growth continues at half the historic average annual rate of real GDP growth?

Middle: what if the market depth continues to increase at half the historic annual rate at which it has grown relative to GDP and real GDP growth continues at half the historic average annual rate of real GDP growth?

High: what if the market depth continues to increase at the historic annual rate at which it has grown relative to GDP and real GDP growth continues at the historic average annual rate of real GDP growth?

Our headline numbers are the average of these three scenarios, and we think they are relatively conservative.

Fig.23 Full list of sectors used and sources used in this report

Sectors	Sources
Pools of capital	
Value of (funded) pensions assets	OECD, World Bank, FSB, PwC, EY
Value of insurance assets	Insurance Europe, World Bank, FSB, US Treasury
Value of household financial assets (exc. pensions & insurance, cash deposits)	Eurostat, Allianz, national central banks
Value of household cash and deposits	Eurostat, Allianz, national central banks
Equity markets	
Value of stockmarket – combined market capitalisation of domestic companies	FESE, WFE, World Bank, national & regional exchanges
Value of initial public offerings (by issuer nationality)	Dealogic
Value of secondary issuance	Dealogic
Value of convertible bond issuance	Dealogic
Bond markets	
Value of outstanding bonds – all issuers	European Central Bank, Bank for International Settlements
Value of outstanding bonds – non-financial corporate issuers	European Central Bank, Bank for International Settlements
Value of high-yield bond issuance	Dealogic
Value of investment grade bond issuance	Dealogic
Value of outstanding corporate bonds as a % of corporate debt	New Financial calculations
Loans and securitization	
Value of leveraged loans issuance	Dealogic
Value of outstanding securitisation	AFME, SIFMA
Value of securitisation issuance	AFME, SIFMA, ASIFMA, Standard & Poor's
Value of outstanding bank lending to non-financial corporations	ECB, Federal Reserve, Central banks, national regulators & statistical authorities
Mergers and Acquisitions	
Value of all M&A by target nationality	Dealogic
Value of domestic M&A	Dealogic
Value of all M&A by acquiror nationality	Dealogic
Asset management	
Value of assets under management by location	EFAMA, Willis Towers Watson, IPE, national associations & regulators, PwC
Private equity and venture capital	
Value of private equity deals	Invest Europe, AVCJ, EMPEA, AIC, national & regional trade associations
Value of private equity fundraising	Invest Europe, AVCJ, EMPEA, AIC, national & regional trade associations
Value of venture capital investments	Invest Europe, AVCJ, Pitchbook, OECD, national & regional trade associations
Trading	
Annual value of equity trading in domestic stocks	Fidessa, WFE, national exchanges,
Average daily value of FX trading	Bank for International Settlements (triennial survey, 2016)
Average daily value of OTC derivatives trading	Bank for International Settlements (triennial survey, 2016)

APPENDIX I: DEPTH OF CAPITAL MARKETS BY ECONOMY

Fig.24 The depth of capital markets – detailed economy rankings

Summary of the relative depth of capital markets for 17 groups and regions and the top 20 economies overall. We have grouped the 25 sectors into eight broad groups: pools of capital; equity markets; bond markets; asset management; corporate activity / M&A; trading; private equity & venture capital; and leveraged loans and securitisation. Note: in each sector, the depth is calculated as the value as a % of GDP, and rebased to the global average depth of 100.

Economy	Overall score	Pools of capital	Equity market	Bond market	Asset management	Corporate activity	Trading	Private equity & VC	Loans & securitisation
Global average	100	100	100	100	100	100	100	100	100
By region									
Americas	154	161	103	153	172	135	98	165	192
Asia Pacific	72	61	110	78	41	89	70	84	36
EMEA	64	75	85	74	90	73	131	42	34
By group									
OECD	114	127	99	116	136	110	118	110	118
EU28	70	82	90	81	106	83	154	42	39
EU27	57	71	81	72	72	73	71	32	34
Developed markets									
Developed - global	124	136	109	122	149	120	131	122	125
Developed - Americas	176	188	115	171	188	156	107	198	215
Developed - Asia Pacific	78	90	113	80	109	87	132	74	29
Developed - EMEA	76	91	99	85	117	89	159	50	39
Emerging markets									
Emerging - global	55	43	86	70	16	69	45	64	21
Emerging - Americas	33	37	46	70	33	38	19	14	11
Emerging - Asia Pacific	71	50	109	78	14	90	51	88	38
Emerging - EMEA	25	25	45	40	14	26	28	12	11
Individual countries									
Hong Kong	261	101	398	115	259	426	666	304	73
Singapore	248	86	248	114	577	270	778	400	41
United States	170	190	114	174	187	156	111	169	212
Luxembourg	149	168	106	281	41	147	270	89	124
United Kingdom	138	142	139	131	295	136	499	101	63
Canada	124	172	134	150	202	163	57	145	64
Sweden	97	152	120	111	166	171	86	74	14
Switzerland	96	162	186	81	212	88	153	45	43
Denmark	88	163	93	69	111	208	188	35	17
Israel	85	92	67	54		90	21	245	18
Netherlands	81	129	96	75	144	68	99	48	78
France	79	75	102	111	141	112	84	57	36
China	76	56	120	91	9	109	67	82	37
South Korea	71	64	92	88	44	104	53	66	51
South Africa	71	112	228	47	88	55	43	36	19
Malaysia	69	69	109	114	49	147	23	14	43
Finland	68	106	102	100	40	129	72	37	10
Australia	65	97	78	67	80	94	75	50	37
Taiwan	64	135	145	56	36	29	58	6	87
Japan	57	82	92	80	76	52	80	31	23



No data available

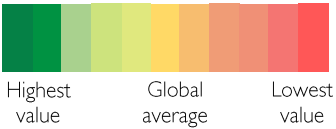
APPENDIX 2: DEPTH OF CAPITAL MARKETS BY ECONOMY

Fig.25 The depth of capital markets – detailed economy rankings

Summary of the relative depth of capital markets for the economies ranked 21st to 60th in our overall ranking. We have grouped the 25 sectors into eight broad groups: pools of capital; equity markets; bond markets; asset management; corporate activity / M&A; trading; private equity & venture capital; and leveraged loans and securitisation.

Note: in each sector, the depth is calculated as the value as a % of GDP, and rebased to the global average depth of 100.

Economy	Overall score	Pools of capital	Equity market	Bond market	Asset Management	Corporate activity	Trading	PE & VC	Loans & securitisation
Global average	100	100	100	100	100	100	100	100	100
Belgium	57	101	40	72	61	35	56	29	68
Spain	57	53	80	48	22	92	66	33	60
Norway	57	47	86	98	41	94	83	26	16
Chile	56	82	54	103		79	19	34	5
Ireland	53	47	87	90	42	47	26	23	45
Italy	52	68	77	77	58	51	61	13	41
Thailand	45	37	95	81	36	41	32	11	36
India	45	11	94	20	7	45	24	85	25
Germany	44	50	77	53	52	58	74	26	17
Malta	42	63	51	39	36	12	32	33	95
UAE	41	10	70	44	0	55	12	19	83
Iceland	37	75	9	50	31	51	78	33	17
Brazil	35	47	57	62	32	34	28	18	9
Portugal	34	48	26	70	30	27	34	11	27
Austria	33	41	90	45	28	33	42	14	1
Mexico	31	31	43	79		19	16	6	16
New Zealand	31	68	31	24		26	38	36	9
Poland	28	25	42	30	44	41	21	25	15
Cyprus	28	40	31	10	40	67	1	33	0
Peru	27	20	13	56		57	6	12	24
Argentina	27	9	43	48		71	3	5	9
Philippines	25	8	49	32	21	44	9	19	10
Russia	24	13	37	64	1	27	39	6	3
Czech Republic	22	29	4	56	23	21	18	2	43
Greece	20	24	15	26	5	36	16	1	29
Indonesia	17	5	24	34		9	20	9	29
Hungary	17	27	29	13	17	14	28	10	18
Croatia	16	32	17	25	36	15	32	2	5
Colombia	16	28	11	26	36	22	10	11	6
Saudi Arabia	14	32	22	10	3	21	22	4	15
Romania	14	18	29	14	4	23	10	10	5
Latvia	14	23	13	6	39	31	10	15	0
Estonia	14	38	6	21	38	6	2	12	0
Bulgaria	12	29	7	14	2	11	25	4	22
Turkey	10	7	22	8	4	9	45	1	5
Slovenia	10	27	4	16	6	6	16	2	12
Slovakia	9	17	2	20	40	1	23	2	1
Lithuania	8	19	3	12	38	9	3	3	7
Ukraine	7	5	4	16	7	10	7	3	4
Egypt	4	4	12	1	1	3	26	0	6



No data available

APPENDIX 3: GROWTH POTENTIAL BY ECONOMY

Fig.26 The growth potential of capital markets – detailed rankings

Growth potential of capital markets in real terms in individual economies over the next 10 years in a selection of sectors in dollar terms and %

	Pools of capital		Stockmarkets		IPOs		Corporate bond market		Corporate bond issuance		Capital markets activity	
economy	\$bn	%	\$bn	%	\$bn	%	\$bn	%	\$bn	%	\$bn	%
Global average	23,730	31%	31,781	38%	79	40%	7,440	50%	1,760	71%	3,297	58%
By region												
Americas	9,692	24%	7,756	21%	11	19%	1,758	25%	561	47%	1,241	40%
Asia Pacific	7,681	53%	20,052	70%	55	63%	4,766	94%	950	131%	1,611	116%
Europe	5,611	27%	3,153	19%	10	22%	837	32%	242	44%	402	34%
Middle East & Africa	745	58%	820	37%	3.3	57%	79	54%	7	51%	43	68%
By group												
OECD	17,487	25%	13,138	21%	23	21%	2,721	25%	819	46%	1,681	38%
EU28	5,017	27%	2,542	18%	8.2	21%	670	29%	209	44%	338	33%
EU27	3,402	26%	2,042	19%	6.7	24%	544	31%	141	41%	245	32%
Developed markets												
Developed - global	16,890	25%	14,427	23%	20	20%	2,500	24%	796	46%	1,645	38%
Developed - Americas	9,013	23%	7,180	21%	7.1	16%	1,563	24%	518	48%	1,171	40%
Developed - Asia Pacific	2,267	25%	4,404	34%	3.9	26%	226	19%	54	39%	107	35%
Developed - Europe	5,352	27%	2,750	17%	8.7	21%	676	29%	225	44%	361	33%
Emerging markets												
Emerging - global	6,839	80%	17,354	83%	59	63%	4,940	104%	964	130%	1,652	120%
Emerging - Americas	679	44%	576	29%	3.5	30%	196	40%	44	43%	69	43%
Emerging - Asia Pacific	5,414	96%	15,648	100%	51	71%	4,541	116%	896	152%	1,504	139%
Emerging - Europe	259	55%	403	32%	1.5	30%	161	59%	17	44%	41	47%
Emerging - ME & Africa	487	53%	727	37%	3.0	61%	43	53%	7	51%	38	68%
Individual economies												
Argentina	16	19%	16	15%	0.7	49%	3	15%	4	58%	7	52%
Australia	481	23%	456	30%	0.4	23%	69	34%	11	42%	20	36%
Austria	24	17%	53	35%	0.3	15%	17	35%	0.5	16%	1	15%
Belgium	192	35%	78	18%	0.0	12%	23	33%	5	47%	12	43%
Brazil	304	37%	241	25%	1.1	16%	55	33%	17	33%	24	32%
Bulgaria	7	72%	9	62%	-	-	1	63%	-	-	0	27%
Canada	1,126	33%	414	17%	0.6	17%	146	29%	434	54%	93	47%
Chile	85	31%	110	37%	0.1	28%	28	39%	5.3	54%	6	52%
China	3,236	137%	11,047	127%	38	83%	4,118	144%	826	172%	1,292	163%
Colombia	76	78%	38	32%	-	-	10	59%	0.9	75%	1	51%
Croatia	11	51%	7	34%	-	-	1	42%	0.0	12%	0	30%
Cyprus	2	33%	0	16%	0.0	16%	-	-	-	-	0	18%
Czech Republic	17	40%	6	19%	-	-	9	52%	1.4	61%	6	67%
Denmark	195	22%	120	28%	0.0	9%	8	26%	1.6	29%	3	21%
Egypt	7	69%	17	36%	0.1	36%	-	-	-	-	0	36%
Estonia	6	77%	1	29%	-	-	1	63%	-	-	0	77%
Finland	79	21%	35	13%	0.8	44%	11	30%	3.9	52%	5	42%
France	569	21%	607	22%	0.2	11%	208	29%	34	41%	47	29%
Germany	634	23%	355	16%	0.4	10%	67	30%	35	36%	45	24%

APPENDIX 4: GROWTH POTENTIAL BY ECONOMY

Fig.27 The growth potential of capital markets – detailed rankings

Growth potential of capital markets in real terms in individual economies over the next 10 years in a selection of sectors in dollar terms and %

	Pools of capital		Stockmarkets		IPOs		Corporate bond market		Corporate bond issuance		Capital markets activity	
economy	\$bn	%	\$bn	%	\$bn	%	\$bn	%	\$bn	%	\$bn	%
Global average	23,730	31%	31,781	38%	78.8	40%	7,440	50%	1,760	71%	3,297	58%
Greece	5	27%	2	3%	-	-	0	30%	0.8	35%	2	33%
Hong Kong	325	69%	2,307	53%	0.6	24%	33	49%	10	57%	22	55%
Hungary	3	17%	6	20%	0.1	60%	0	23%	-	-	1	38%
Iceland	16	38%	2	25%	-	-	2	45%	0.0	85%	0	29%
India	383	84%	2,152	92%	7.2	61%	20	72%	27	114%	111	104%
Indonesia	32	52%	279	54%	0.2	32%	19	57%	9.1	66%	21	69%
Ireland	107	44%	64	44%	0.6	44%	13	74%	9.3	97%	19	81%
Israel	258	72%	93	40%	0.3	34%	36	55%	0.1	28%	5	66%
Italy	245	22%	24	3%	1.1	17%	44	26%	16	31%	26	25%
Japan	1,076	18%	1,185	19%	0.3	5%	39	5%	28	33%	48	27%
Latvia	1	66%	0	29%	0.0	29%	0	84%	-	-	0	89%
Lithuania	4	77%	1	30%	0.0	75%	0	40%	0.3	92%	0	92%
Luxembourg	131	61%	18	27%	-	-	13	53%	1.8	43%	4	42%
Malaysia	121	48%	183	40%	0.6	41%	103	66%	2.8	35%	11	57%
Malta	4	59%	1	26%	0.0	86%	0	26%	0.0	86%	1	86%
Mexico	141	62%	115	28%	1.6	51%	88	44%	12	42%	24	49%
Netherlands	617	30%	141	13%	0.1	13%	33	32%	3.8	27%	12	23%
New Zealand	60	79%	21	22%	0.0	21%	4	39%	1.1	44%	2	40%
Norway	51	23%	82	28%	0.2	12%	22	27%	5.6	52%	10	37%
Peru	57	93%	54	55%	-	-	12	74%	4.4	98%	7	98%
Philippines	18	50%	174	60%	0.2	38%	6	38%	2.9	87%	4	63%
Poland	32	31%	109	54%	0.5	28%	14	44%	0.7	69%	7	69%
Portugal	9	11%	5	7%	-	-	10	23%	0.4	11%	1	17%
Romania	5	36%	14	57%	0.1	47%	0	32%	1.0	83%	2	71%
Russia	90	73%	160	26%	0.5	26%	122	62%	12	39%	15	35%
Saudi Arabia	253	84%	109	24%	0.2	84%	5	76%	3.3	67%	7	68%
Singapore	326	81%	435	55%	2.6	53%	80	59%	3.3	48%	15	61%
Slovakia	13	67%	2	41%	-	-	2	54%	-	-	0	28%
Slovenia	6	43%	1	21%	-	-	0	36%	-	-	0	70%
South Africa	190	34%	487	40%	1.3	70%	14	38%	2.1	57%	11	57%
South Korea	884	64%	1,018	57%	3.1	46%	182	30%	15	44%	21	43%
Spain	200	34%	163	18%	1.4	33%	8	18%	13	43%	31	39%
Sweden	286	29%	215	27%	1.0	35%	59	45%	13	61%	17	46%
Switzerland	378	24%	284	17%	1.1	23%	13	17%	15	47%	33	44%
Taiwan	644	69%	503	47%	0.1	29%	37	29%	3.3	40%	25	59%
Thailand	94	67%	293	53%	0.9	26%	55	61%	10	61%	19	63%
Turkey	57	80%	82	36%	0.3	36%	8	72%	1.4	101%	6	64%
UAE	37	80%	115	48%	1.4	54%	24	64%	1.7	32%	19	77%
Ukraine	3	40%	1	13%	-	-	0	36%	0.2	17%	0	21%
United Kingdom	1,615	29%	500	14%	1.5	14%	126	23%	68	52%	93	35%
United States	7,887	22%	6,766	21%	6.4	16%	1,416	23%	474	47%	1,079	39%

About New Financial

New Financial is a think tank that believes Europe needs bigger and better capital markets to help drive growth and prosperity.

We think this presents a huge opportunity for the industry and its customers to embrace change and rethink how capital markets work.

We work with market participants and policymakers to help make a more positive and constructive case for capital markets around four main themes: unlocking capital markets; rebuilding trust; driving diversity; and the impact of Brexit.

We are a social enterprise that launched in September 2014. We are funded by institutional membership from different sectors of the capital markets industry.

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The Global Financial Markets Association (GFMA) represents the common interests of the world's leading financial and capital market participants, and speaks for the industry on the most important global market issues.

GFMA's mission is to provide a forum for global systemically important banks to develop policies and strategies on issues of global concern within the regulatory environment.

The GFMA brings together three of the world's leading financial trade associations to address the increasingly important global regulatory agenda and to promote coordinated advocacy efforts:

The Association for Financial Markets in Europe (AFME) in London, Brussels and Frankfurt, the Asia Securities Industry & Financial Markets Association (ASIFMA) in Hong Kong and the Securities Industry and Financial Markets Association (SIFMA) in New York and Washington are, respectively, the European, Asian and North American members of GFMA.

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