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EMERGING MARKET FINANCE 2050

FINANCE FOR THE FUTURE – FUNDING GROWTH, INCLUSIVITY AND ENVIRONMENT

BY

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EXECUTIVE SUMMARY

Significant work has been done since the global financial crisis (GFC) to re-examine the future of finance and its role in supporting real GDP growth. There is general agreement that the earlier work on finance and development has been relatively simplistic, assuming that financial deepening automatically meant financial stability, in the same naïve way that pre-crisis central bankers equated monetary stability with financial stability.

Finance cannot be separated from the real economy/society. A major failing of mainstream thinking about development and finance is to forget that we are dealing with open, dynamic and complex systems which have hierarchy and topology, in which different parts are silos and components that look after their own interests and ignore the systemic aspects (spillovers) on other parts of the system. It is the inability to coordinate action at the institutional, national, regional and global levels that lead to imbalances in growth that generate radical uncertainty, instability and losses. Indeed, most change comes from the reflexive interaction between the different components of a system with each other that create complex non-linear multi-dimensional behaviour that is often unpredictable. This means that there are complex trade-offs between size, efficiency, stability and access (fairness) of financial systems.

The real economy, from institutional to global levels, has been affected by the mega-trends of demographics, urbanization, climate change, natural disasters, social inequity, geopolitics, territorial conflicts, complex regulations, collective action traps and disruptive new technologies. Each of these factors interacts with each other to produce sub-system behaviour that respond and adapt to complex, non-linear feedbacks with different parts of the system. Radical uncertainty is inbuilt into development and financial systems.

Consequently, linear projections of financial deepening by emerging market economies (EMEs) based on linear projections of GDP are likely to be optimism-biased because whether EMEs can overtake advanced economies (AEs) by 2050 in terms of GDP size and financial deepening (market size) is neither inevitable nor pre-ordained. How the global economy and financial system will evolve vis-a-vis EMEs and AEs will be dependent on how dynamic and strategic they are in adapting to major transformative trends.

Forecasting the financial system is particularly difficult because we are not even sure how the real economy will look like in 2050, let alone the impact of the huge regulatory constraints introduced since 2008.

Since the taper tantrum in 2013, the recent slowdown in China and turbulence in capital flows and EMEs indicate that the world may be going through a period of slower growth, with the risk of secular stagnation. There are also clear signs that there are limits to quantitative easing (QE) and unconventional monetary policy in reviving growth.

The GFC revealed that the world was becoming too leveraged, over-dependent on low interest rates and central bank intervention; the financial sector was too short-term in behaviour, getting more concentrated; and shadow banking was becoming larger relative to traditional banking. The world was becoming too much debt-driven, which was leading to greater social inequality, as the poor had less access to credit and sophisticated financial services than the rich. Furthermore, the arrival of financial technology platforms through the use of mobile, internet communications, threatened to disintermediate traditional banks and asset managers.

As the world began to slow, the policymakers became more conscious of the need for more inclusive finance, lending to SMEs to create jobs and for more funding for infrastructure to boost investments. At the same time, the public became more conscious of climate change and environmental concerns and there is more urgent need for finance to help fund sustainability projects².

Another area that is disruptive of the financial sector is the arrival of mobile, internet technology, which cuts through traditional markets that have been segmented into product or functional jurisdictions. Financial technology (Fintech) platforms are now invading the payments area, through such innovation as ApplePay, Alibaba/Taobao, which increasingly offer products and services that are cheap, easy to use and convenient. Consequently, the financial sector will be changed considerably as these FinTech platforms cut across banking, asset management, logistics and other markets.

FinTech will change not only the architecture of the financial sector but also the topology of different markets through lifestyle and supply chain changes. This is because these platforms network together different markets that used to be quite segmented, either by law, geography or product space.

The arrival of Fintech has also changed how we view economic and social development. Economic development was previously conceptualized as the bundling of capital, land, labour and knowledge to produce policy defined growth. This gave rise to input-output models of development, because it was thought that if countries got their blend of inputs right, they will achieve growth. Increasingly, economists became aware of the importance of knowledge, innovation, technology and governance – soft factors in development, compared with “hard” physical capital and land.

The paradigm by which we looked at finance pre-crisis is seriously flawed, and we need to examine the role of finance in new, complex, inter-active and systemic perspectives. Some people call this the New Institutional Economics (and finance). This work is only just beginning, but the outlines of the approach would include the following:

² UNEP. 2015, October. [*The Financial System We Need: Aligning the Financial System with Sustainable Development.*](#)

- Finance is inseparable from the real sector, but the current debt-driven model is unsustainable and needs to change to one in which finance supports the real sector through risk-sharing³, rather than one that is vested with the power to exacerbate inequality, hasten environmental consumption and degradation through risk-shifting, and inherently fragile.
- Finance has become too debt-driven and there needs to be rebalancing between debt and equity towards deleveraging, with high risk EMEs requiring higher levels of equity (through stock markets and private equity mechanisms) to cushion themselves against more complex future unknown unknowns.
- Any linear projection of current trends based on past data is likely to be wrong, because it does not capture the constant, dynamic interaction at the cross-dimensional and cross-temporal levels between different financial, economic or political systems. We have yet to develop quantitative tools to describe and model such complex interactions. This paper has produced some linear projections and also surveyed existing studies that probably used the same methodology, but these are only presented to illustrate the general line of thinking, which are more likely to be wrong than right.
- For national systems to be efficient, stable, just and ecologically sustainable, there are three hard budget constraints which must be satisfied – the *flow* constraint that growth must be greater than costs (including externalities such as environmental degradation and pollution), the *stock* constraint that solvency must be higher than debt/obligations, and the *distributional or political* constraint of taxing winners to pay for losses in the system to maintain fairness. The world is entering a period of secular stagnation or debt deflation, partly because the (GDP) measurements of growth and development ignore spillover costs, environmental degradation, social justice and wellbeing. As a result of flawed measurements of performance and inability of politics to get out of collective action traps, there is over-reliance on “soft options” of monetary policy, and unwillingness to tackle the painful issues of loss recognition, income and wealth redistribution, job creation and dealing with long-term issues of climate change and social stability. Getting the right governance structure through appropriate incentives is more a political issue of social choice rather than pure economics.
- The situation is exacerbated with a flawed global financial architecture, because under current geopolitical realities, there does not exist any global distribution mechanism to deal with imbalances, as no global fiscal or central banking function is currently politically feasible. Hence, the international monetary system will continue to lurch from imbalance to imbalance, punctuated by crises.
- Reforms of the financial system therefore must deal with the issue of size (increasing leverage), fragility, inequality and focus less on the ruthless pursuit of efficiency per se, but more on the extent to which finance will support real sector innovation, social justice/inclusivity and investments in SMEs, infrastructure, including ecologically sustainable investments that reduce pollution, improve energy and resource usage, promote a sustainable lifestyle and is broadly systemically stable and resilient to endogenous and exogenous shocks.
- To expect the market on its own to deal with such challenging tasks is naïve, but the role of the state in itself is also problematic. Not only is there no optimum policy-mix formula at the national level, it is near impossible to achieve consensus at the global level without a common set of values and shared beliefs.
- The task of re-thinking the role of finance in funding a sustainable lifestyle and environment is only beginning, but this could have radical and profound impact on the design of resilient and adaptable financial systems. For example, Islamic finance is an equity and ethics-based system that tries to be an alternative and complement to mainstream debt-drive finance.
- We need competition of ideas to get finance to serve the real sector. There is no optimal or “one-size-fits-all” financial model for EMEs. All involve complex trade-offs, so encouraging system diversity, through experimentation and competition of ideas, policy options and outcomes, will produce a more robust and sustainable financial system.

The implications of the above approach (and the requirements of the Sustainable Development Agenda) means that at the national level, EMEs have the opportunity to radically restructure their financial systems to fit their national goals, which may be different for different countries. However, the following core elements should be addressed.

- EMEs should use the current threats of shadow banking and too-big-to-fail (TBTF) bank fragility to reduce their current dependence on bank credit, which suffers from short-termism and a structural maturity mismatch. This can be done through the restructuring of the real sector borrowers, using debt-equity swaps and also promoting the growth of long-term funds and institutional investors, such as pension, insurance and private equity that can inject fresh equity into overleveraged enterprises.
- The world needs more equity rather than debt because an overleveraged banking system cannot save an overleveraged real sector. Further complex regulation of the banking system is not the answer to deal with TBTF and undercapitalized banking systems. The restoration and restructuring of the real sector into well-capitalized sectors with long-term focus on inter-generational and social responsibilities will revive sustainable growth, supported by a financial sector that has short and long-term interests aligned with the real sector.
- Because finance is defined by law, it tends to be national-based, increasingly complex, requiring more and more complex regulation that invites more and more regulatory arbitrage and “gaming of the system”. Inevitably, financial regulation and supervision must aim to reduce such gaming that is neither socially productive nor helpful for financial stability and social equity. Difficult issues such as Tobin taxes and competition rules will have to be addressed.
- The debt/equity balance can be restored through changing the tax system that currently favors debt instead of equity. It can also be made structurally more stable through creation of new equity funds (such as sovereign wealth funds or fund of funds for venture capital) and new types of SME equity markets that focus on raising capital for innovation and for SMEs to thrive. Furthermore, debt/equity swaps can be achieved through restructuring of viable but highly leveraged borrowers by banks and specialized institutional frameworks, such as resolution trusts or exit mechanisms.
- Financial systems need to be more financially inclusive, and also ameliorate their predatory elements that arise from usury, mis-selling, market manipulation, fraud and insider trading. Much of this will be resolved if financial institutions have higher

³ Askari, Hossein, Obiyathulla Ismath Bacha & Abbas Mirakhor. “Risk Sharing in Corporate and Public Finance: The Contribution of Islamic Finance.” International Centre for Islamic Finance (INCEIF), 2015, (forthcoming).

management-ownership and higher capital (via a return to old fashioned merchant-banking that have now been regulated out of existence).

- This paper takes the view that the building block of strong financial systems need to start at the national and local levels, so that finance is founded on strong ethics and values, safeguarded by vigilant supervision along clear principles, and fostered through sound competition. Financial deepening takes on a different (broader) meaning from just developing public financial markets, such as foreign exchange, inter-bank and stock markets, to nurturing private (matching) markets that are not only complementary to public markets, but also essential training grounds for both investors, intermediaries and regulators for public markets that trade on scale, efficiency and transparency.
- It is through the competition from bottom-up that will generate a more healthy, diverse and economically, socially and ecologically more sustainable global financial system. Global consensus can be reached more easily through definition of common standards by which risks, performance and stability can be measured and enforced. It would be unfruitful to try to enforce a mono-culture of one-size-fits-all set of regulatory or policy tools, because for flexibility and adaptability, the global system should experiment with the evolution and experimentation of different systems and approaches, subject to agreement on the systemic implications of such experimentation.

At the global level, as the system shifts from a unipolar to multipolar system, geo-politics will dominate in the run-up to 2050, but a crucial question is one of how to increase global public goods. Given the global rivalry between incumbent powers and rising powers, there are fewer resources for global public goods. Furthermore, this paper argues that in the context of growing uncertainties (unknown unknowns) from environmental, disruptive technology, natural disasters and human conflict, the only way forward is more equity cushions and less debt. Developing more global public goods is touched upon briefly in this paper. As it is such a complex and important issue, it warrants a more detailed assessment, which unfortunately must lie outside the scope of this paper.

After a short introduction of key issues in Section 1, Section 2 surveys the mainstream views about financial reform and deepening, as well as current projections of EME growth and finance. Section 3 reviews the current international monetary system and how the lack of appropriate public goods and structure affect the direction of global finance. Section 4 presents our own projections based on GDP calculations consistent with the other EME 2050 study, which is consistent with the mainstream views. Section 5 uses a national balance sheet approach that examines the U.S. historical data to reveal methodologies that will help facilitate EME financial strategy formulation. Section 6 reviews the issues and options that EMEs will face in mapping out financial strategy in the run up to 2050. Section 7 concludes.

1. Introduction

This paper tries to sketch out a framework to think about the evolution of the financial sector for the Emerging Market Economies (EMEs) in the wake of the Global Financial Crisis (GFC). The GFC demonstrated not only that one needs to re-think how finance should serve the real sector, but also how the real sector will evolve over the medium and longer term (the next 35 years), given very complex changes in geopolitics (shifts in power structure), technology, demographics (aging population) and global flows in trade, capital, people and information⁴.

On 28 September 2015, UN members adopted the 2030 Sustainable Development Agenda comprising 17 Goals and 169 associated targets to **end poverty, protect the planet, and ensure prosperity for all** as part of a new sustainable development agenda to be achieved over the next 15 years. The financing of that Agenda was discussed at the third International Conference on Financing for Development, held in Addis Ababa from 13 to 16 July 2015.

The Addis Ababa Action Agenda placed the primary responsibility for development on the countries themselves, with only support from the development agencies to help the countries' own economic and social development processes. Public finance, both domestic and international, will play a vital role in providing essential services and public goods and in catalysing other sources of finance. The Agenda acknowledged the role of the private sector, ranging from micro-enterprises to cooperatives to multinationals, and that of civil society organizations and philanthropic organizations in its implementation.

In short, the implementation of the ambitious Sustainable Development Agenda will depend on its funding.

The GFC has revealed that whilst finance played a vital role in development, there are reasons to think that "too much finance" may be a drag on development. Whilst central banks' creative but controversial monetary policies appeared to have generated resources beyond conventional saving to stave off the Global Financial Crisis, there are reasons to think that the world may be going through a phase of more limited resources for development. Specifically, the multi-lateral development banks are going through a phase of resource constraints, due to inability to raise capital. Furthermore, if growth slows and real interest rates remain low, there may be less savings available to fund the massive investments necessary to address climate change, deal with poverty and social injustices as defined by the Sustainable Development Agenda.

The U.S. National Intelligence Council's publication on global landscape to 2030⁵ is probably the most authoritative analysis of global mega-trends and possible game-changers. The report sees greater individual empowerment through growth of the global middle-class, greater education, widespread use of technology and healthcare advances. At the same time, the multipolar world will see greater diffusion of power, with slower economic growth in the aging countries and more urbanization. However, the increase in global population will put stresses on food, water and energy.

Multipolarity however may result in a crisis-prone global economy, with greater uncertainties and because global savings may not match the EME demand for infrastructure, housing and resources, there may be upward pressure on long-term interest rates. Another game change is the governance gap, because the diffusion of power (and emergence of new non-national players) could produce increased regionalism and inability to reach global consensus. This means that there is greater potential for intrastate conflict, with wider scope of regional instability.

Whilst new technologies could help solve some problems such as improved economic productivity, quality of life and minimizing resource consumption and environmental degradation, these may produce new challenges for job creation, especially since robotization cuts the need for low-skilled jobs.

The NIC report therefore sees three possible scenarios – one of stalled engine of greater conflicts, a fusion scenario of consensus and all boats rising substantially, and a "Gini out-of-the-bottle" of extremes, where the lack of social cohesion gives rise also to conflicts, with more muddling through.

All these mega-trends, including the role of finance, are inter-acting with each other in non-linear fashion, so that the outcome will be very hard to predict. In EMEs, there is greater awareness that national and people's aspirations are very much concentrated on three issues – prosperity in terms of jobs, income and wealth, justice in social inclusivity and more equality and environmental sustainability – a combination of "prosperity, people and planet".

Projecting trends to 2050 is at best a hazardous task, given the radical uncertainties that are emerging and the transformative changes that the world is going through, both in the real sector, the financial sector and in the intellectual conceptualization of the role of finance in economic development.

Whatever projections are made to 2050 were done in absolute humility, knowing that the assumptions may be wrong and that the outcomes could be radically different. The paper, however, not only looks forward, but also backward in examining the way finance had funded U.S. economic development over the last 70 years, through a combination of debt and equity.

⁴ Dobbs, Richard, James Manyika & Jonathan Woetzel. 2015. *"No Ordinary Disruption: The Four Global Forces Breaking all the Trends."* McKinsey and Company. New York, U.S.A.: Public Affairs.

⁵ National Intelligence Council. 2012, December. ["Global Trends 2030: Alternative Worlds."](#)

Based on various studies that have emerged, this paper tries to propose a framework that examines the critical issues facing EME policymakers in shaping the financial sector in the next few decades.

2. Recent Thinking on Financial Deepening

Prior to the Global Financial Crisis (GFC), finance was thought to be a driver of growth and development. Since then, leveraged growth of the financial sector has raised questions on whether finance is serving its own interests and whether there are limits to finance in its systemic and developmental role.

A recent study by the IMF found that financial deepening is correlated to growth, but beyond a certain point, financial complexity could affect economic stability⁶. Whilst EME financial systems have deepened substantially in recent decades, most remain less developed than those in advanced economies. As at the end of 2013, in the average EME, outstanding private credit accounted for close to 50 percent of GDP and stock markets have averaged about 40 percent of GDP since 2000. By contrast, advanced markets private credit averaged more than 130 percent of GDP and stock market capitalization was about 70 percent of GDP.

The Sahay study found that financial development generally increases a country's resilience and boosts economic growth, but tradeoffs between growth and stability can emerge at high levels of financial development, where financialization can harm rather than benefit. Building on the work of Ross Levine, the study suggested that whilst there is a positive relationship between financial development and growth, the marginal returns to growth from further financial development diminish at high levels of financial development. A similar non-linear relationship arises for economic stability. Many EMEs are still at a growing stage where further financial development promotes both higher growth and stability, but too fast a pace of financial deepening could lead to instability. Some of the risks can be managed partially with strong regulatory and supervisory practices. More importantly, the study concluded that there is no "one-size-fits-all" in the sequencing of institutions and markets, but, as economies evolve, the relative benefits from institutions decline and those from markets increase.

The 2015 Bellagio White Paper on Restarting the Global Economy⁷, revisiting the Growth Commission's work in 2009, argues that the world is going through a period of impaired economic environment due to the confluence of inadequate aggregate demand; emergence of new, disruptive technologies that can be transformative for future productivity but can also displace labour; significant changes in the distribution of income and concentration of wealth; and a dearth of economic instruments to deal with these multiple challenges.

Specifically, there is awareness that public debt in the advanced countries has doubled since 2000, and there is over-reliance on monetary policy. With decline in median incomes and household balance sheets due to growing inequality, there is insufficient increase in aggregate demand. At the same time, capital markets, despite being "flush with liquidity" provided by central banks, do not seem to be meeting the huge needs for infrastructure financing.

The labour markets are also being disrupted by rapid technological change, which have eliminated low end jobs, demanding a different set of knowledge skills. The Bellagio Group therefore proposes that there is necessity for governments to deal with the fiscal challenge, including rebalancing between consumption support and infrastructure investment; more forward-looking management of urbanization; adjusting labour markets for changes in technological progress, and last but not least, more attention to reforming, reinventing and strengthening the global economic architecture.

There has been a host of studies to relook at the future of finance⁸ and how it should be re-aligned to serve the real sector. There are two basic approaches. On the one hand, the World Bank⁹ and the IMF¹⁰ have produced some fundamental research on benchmarking financial systems and looking at financial market deepening from different angles.

On the other, there has also been a re-examination of the role of finance in emerging market economies, such as Asia 2050¹¹, Asia Finance 2020¹², Asia Pacific Financial Forum¹³, and the Australian Financial System Inquiry¹⁴ and UNEP Enquiry: Design of a Sustainable Financial

⁶ Sahay, Ratna, Martin Čihák, Papa N'Diaye, Adolfo Barajas, Ran Bi, Diana Ayala, Yuan Gao, Annette Kyobe, Lam Nguyen, Christian Saborowski, Katsiaryna Sviryzdenka & Seyed Reza Yousefi. 2015, May. "[Rethinking Financial Deepening: Stability and Growth in Emerging Markets](#)." IMF Staff Discussion Note, SDN/15/08.

⁷ Kanbur, Ravi, Danny Leipziger, James Manyika & Michael Spence 2015. "[Restarting the Global Economy: Harnessing the Forces of Economic Growth](#)." Growth Dialogue White Paper, , 5-7 May, Bellagio, Italy.

⁸ See work by CFA Institute on Future of Finance, led by Sir John Kay, available at <http://www.cfainstitute.org/learning/future/Pages/index.aspx>

⁹ The World Bank. 2012. "[Global Financial Development Report 2013: Rethinking the Role of the State in Finance](#)." Washington, DC: World Bank.

¹⁰ International Monetary Fund (IMF). 2014. "[Global Financial Stability Report, April 2014: Moving from Liquidity- to Growth-Driven Markets](#)." Washington, DC: IMF, and Sahay, Ratna, Jerald Schiff, Cheng Hoon Lim, Chikahisa Sumi, and James Walsh (eds.) 2015. "[The Future of Asian Finance](#)." Washington DC: IMF.

¹¹ Asian Development Bank. 2011. "[Asia 2050: Realizing the Asian Century](#)." Singapore: Sage Publications.

¹² Edelmann, Christian, Ng, Chow Soon & Sheng, Andrew. 2013. "[Asia Finance 2020: Framing a New Asian Financial Architecture](#)." Oliver Wyman and Fung Global Institute.

¹³ Sheng, Andrew. 2013. "[Issues on APEC financial architecture in a global and regional context](#)." (presentation delivered at the forum) The Asia-Pacific Financial Market Development Symposium, 10 April, Sydney, Australia.

¹⁴ Financial System Inquiry. 2014. "[Interim Report](#)" and "[Final Report](#)" Commonwealth of Australia.

System¹⁵. In parallel, a number of regional studies have also examined the future scenarios of countries such as India 2039¹⁶, Africa 2050^{17,18} and Latin America 2040¹⁹ in rethinking their new development model in the run up to 2050.

The World Bank Global Financial Development Report (2013) examined specifically the active role of the state in the financial sector, but the Bank remained cautionary that whilst short-term intervention can help maintain economic stability, drive growth, and create jobs, there are potential longer-term negative effects. The report argues that the state has an important role in providing supervision, ensuring healthy competition, and strengthening financial infrastructure. There are six key messages in the Report:

- **Incentives are crucial in the financial sector**, emphasizing the need to better align private incentives with public interest without taxing or subsidizing private risk-taking.
- **Importance of regulation and supervision getting the “basics” right first.** This requires transparent institutional frameworks with strong, timely, and anticipatory supervisory action, complemented with market discipline.
- **The state needs to encourage contestability through healthy entry of well-capitalized institutions and timely exit of insolvent ones.** With sound regulation and supervision, bank competition can help improve efficiency and enhance access to financial services, without necessarily undermining systemic stability.
- **Lending by state-owned banks can play a positive role in stabilizing aggregate credit in a downturn, but it also can lead to resource misallocation and deterioration of the quality of intermediation.** The report finds the track record of state banks in credit allocation remains generally unimpressive, undermining the benefits of using state banks as a countercyclical tool.
- **Experience points to a useful role for the state in promoting transparency of information and reducing counterparty risk.** For example, the state can facilitate the inclusion of a broader set of lenders in credit reporting systems and promote the provision of high-quality credit information.

The World Bank report has done excellent work on benchmarking the role of financial institutions and markets in influencing economic development, poverty alleviation and economic stability. But it still falls short of adequately measuring the functioning of the financial system. To date, most measures on financial deepening use the size of the banking industry as a proxy for financial development, but since size is neither a measure of quality, efficiency, nor stability, simple “financial depth” underestimates the complexity of financial systems.

The Sahay²⁰ study has an improved measure, namely the use of the four characteristics of financial institutions (banks and non-bank financial intermediaries) and financial markets (equity, bond and derivative markets) in a 4x2 matrix involving: (a) size (financial depth); (b) the degree of access; (c) the efficiency in providing financial services; and (d) financial stability of institutions and markets.

This new comprehensive index indicated that EME financial systems had deepened, but between 1980-2013, advanced economies widened the gap in financial sophistication relative to EMEs. Some EMEs had improved their financial deepening, but Low Income & Developing countries’ financial sophistication hardly improved over time.

However, even this more complex measurement does not assess financial systems properly, because there are no good cross-country, cross-temporal measurements of how financial systems improve transparency and resource allocation efficiency, enhance sound corporate governance, improve risk management, improve price discovery and facilitate trade and investments and most of all, govern itself without endogenous crises.

In the past, the EMEs and academia assumed that the nirvana of financial development was to emulate advanced country financial depth, but the GFC shattered that illusion. There is today greater awareness that financial development is multi-dimensional and that there are important trade-offs between different institutional and market structures, including regulatory and tax structures. A high speed system does not mean that it is stable, nor does a “transparent” system with high disclosure costs enhance market access. Indeed, there is considerable lack of research on the role of non-bank financial intermediaries (NBFIs) in the financial system. This has led to unnecessary concern about “shadow banking” and pressure to widen the regulatory perimeter, without understanding their complex interaction with the banking system.

The GFC also revealed the failures of conventional risk management models, which measured risk (statistically measurable volatilities) but not uncertainty. The perceptive insights of Nassim Taleb²¹ into “anti-fragility”, the capacity of systems to absorb unknown disasters or tail-events that inflict more than expected losses, changed the risk and uncertainty management model from hedging risks through specific tools, into a portfolio management tool in which one must invest in cheap options that yield outsized returns so that the portfolio is “anti-fragile”, meaning that it earns sufficient high returns in order to cushion itself against unknown losses.

¹⁵ UNEP. 2015, October. [“The Financial System We Need: Aligning the Financial System with Sustainable Development.”](#)

¹⁶ Kohli, Harinder & Anil Sood et al. 2011. [“India 2039: An Affluent Society in One Generation.”](#) Asian Development Bank. Prepared for Emerging Markets Forum, Centennial Group.

¹⁷ African Development Bank. (2011). [“Africa in 50 years’ Time: The Road Towards Inclusive Growth.”](#) Tunisia: African Development Bank Group.

¹⁸ Ahlers, Theodore, Harinder Kohli, Callisto Madavo & Anil Sood. 2014. [“Africa 2050: Realizing the Continent’s Full Potential.”](#) Emerging Markets Forum. UK: Oxford University Press.

¹⁹ Kohli, Harinder, Claudio Loser, & Anil Sood. 2010. [“Latin America 2040 – Breaking Away from Complacency: An Agenda for Resurgence.”](#) Inter-American Development Bank. Centennial Group. U.S.A.: SAGE Publications Ltd.

²⁰ Sahay et al 2015, pp 10-13.

²¹ Taleb, Nassim Nicholas. 2012. [“Antifragile: How to Live in a World We don’t Understand.”](#) UK: Penguin.

Specifically, the Nassim insight was that it was not possible to hedge directly against an “unknown unknown”, in the way conventional finance devises hedging instruments to hedge against credit or market risks (that are measurable based on past history). Nor can a rule-based legal system write laws to prevent “unknown unknowns”. It is technically not possible to regulate against something that the system is not prepared for and has no understanding of its impact or implications.

The whole debt-driven system of finance works on the assumption that the credit and other risks can be hedged. From the Modigliani-Miller theory, there was an equivalence between debt and equity, based on the flawed assumption that there can be no bankruptcies. The result was that companies leveraged in order to gain short-term profits at the expense of individual fragility (in the event the company has no liquidity to meet debt obligations) and also system fragility.

On the other hand, building up an equity cushion through internal savings and investing in low-cost/high return options, enables the entity to recover from unknown shocks. In other words, in order to remain sustainable, the system has to invest in many diverse options so that its profits and equity remain sufficient to offset losses from unknown and unpredictable shocks.

As the Basel III reforms have attempted to achieve, it is important to have both adequate capital and sufficient liquidity for the banks to hedge against maturity mismatches and liquidity shocks that transform into solvency shocks. Furthermore, the Asian and Global Financial Crisis and the European Sovereign Debt Crisis demonstrated that at the national level, there should be sufficient foreign exchange reserves to cushion against unexpected foreign exchange mismatches.

The third common mismatch in EME financial systems is the debt/equity imbalance, which is the overleveraging in the current financial systems, due to tax and incentive biases that enable existing shareholders to increase profits through leverage and maintain control of a company at the cost of greater systemic risks. Debt reinforces short-term behaviour, concentration and moral hazard in the system, because it shifts risks to the system rather than sharing the risks with it. The result is that central bank assistance and deposit insurance have to be widened and scaled up in order to cover shadow banking to prevent systemic failure.

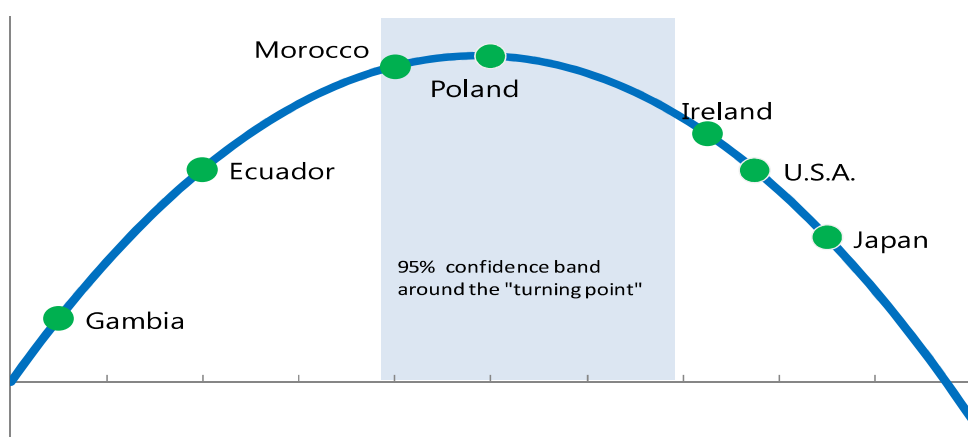
The asymmetry of debt contracts lies in the fact that a borrower (like a bank) can become too big to fail (TBTF), so that there is an incentive for it to become so large that the rest of the system must ensure its survival. So far, there are no ideal regulatory solutions to the TBTF dilemma, because TBTF institutions have also become politically powerful enough also to influence the way they are regulated.

In a sense, a debt-driven system is inherent in the current reserve currency system, because the reserve currency country can go on borrowing from the rest of the system to provide liquidity desired by the rest of the world to the point of fiscal and debt irresponsibility. Beyond a certain point of debt, the whole system becomes hostage to the reserve currency system and has to maintain it in order to avoid sharing large losses.

This inherent risk-shift characteristic of a debt-driven system drives the system towards lower and lower interest rates in order to keep the debt system viable, until debt deflation comes in to slow growth and force the system to re-write the debt contract.

If the Sahay study thesis is correct, that there is a significant, bell-shaped, relationship between financial development and growth at the national economy level, then there is likely to be a similar bell-shaped relationship for the global financial system (Figure 2.1).

Figure 2.1: Financial Development Effect on Growth



Source: Sahay et al, Figure 7, pg.16.

Is it possible to conclude that beyond certain levels of financial debt, there may be “too much finance”?

Table 2.1: Crude Leverage Ratio

	GDP	Stock Market Cap	Debt Market	Bank Assets	(US\$ trillions) Crude Ratio (%)
World	75.5	62.6	97.3	126.7	358.8
Europe	16.7	12.6	30.0	48.7	625.6
US	16.8	22.3	34.5	15.9	226.0
Japan	4.9	4.6	12.3	11.5	517.4
UK	2.7	4.0	5.8	10.4	405.0
Emerging Markets	29.1	11.2	11.2	33.9	402.7
Asia	13.8	6.0	5.8	24.3	501.7
China	9.5	3.4	4.1	20.2	714.7

Source: IMF GFSR 2015, "Navigating Monetary Policy Challenges and Managing Risks."; author's calculations.

If we were to undertake a crude calculation of leverage, Table 2.1 showed that those economies with high levels of leverage (bank assets+bond market size)/stock market capitalization, were vulnerable to financial crises. The U.S. financial system is less leveraged because it has deep equity markets, whilst the corporate sector can also access deep and liquid bond markets. The European and more recently, the Chinese financial systems are more dependent on bank credit and debt markets for funding development.

Given the vulnerabilities of "too much finance" or rather "too much short-term financialization through debt", what should EMEs do to develop much more resilient and robust financial systems?

In essence, the work of Nassim Taleb harks back to a Keynesian "real return to capital" view of financial development, rather than the current policy target of the nominal rate of interest. Given the speculative nature of the real world, the real return to capital must take into consideration radical uncertainty and therefore its return must be higher in order for saving to equilibrate with investment needs. Central bank manipulation of short-term interest rates only perpetuates the market distortion because the incentive of market participants has been skewed towards short-term speculative behaviour supported by central bank intervention. Arguably, entrepreneurs are unwilling to invest in high risk projects when the (apparently) risk-free return on sovereign debt and speculation on carry trades on financial assets are more profitable.

This is not to say that further deepening of bond and derivative markets are not important. For example, since the Asian financial crisis, East Asian economies have worked hard to deepen Asian bond markets by harmonizing selected capital market regulations, improving capital market and payment system infrastructure and pushing through the ASEAN+3 Asian bond market initiatives to develop and integrate local currency bond markets²².

Recent work by Nobel Laureate Roth²³ (2012) showed that we need to understand markets from the perspective of not simply public financial markets, such as stock exchanges, FX and bond markets, but also private (matching) markets that are complementary to public markets. The Chinese have discovered this lacunae in development of the stock market, by realizing that a well-functioning stock market needs complementary markets that may not be so liquid. They call this the development "multi-level capital markets". Specifically, there are private markets that "train" and "select" eligible enterprises to "graduate" to public stock markets, via specialist intermediaries such as investments banks, private equity funds, venture capitalists and the like. The eco-system for such markets must include sophisticated investors, including institutional investors such as long-term pension, insurance and high net-worth equity investors (family offices).

The Chinese recognized that a multi-level capital market needs lower level markets which prepare startups and SMEs for eventual public listing on the higher level/formal stock exchange. They consolidated over-the-counter property exchanges around the country into their Third New Market (the over-the-counter market for unlisted shares of enterprises) and allowed eligible companies to "pre-list" on the Third New Market, which is limited to professional investors only. Unfortunately, the Chinese financial system lacks a deep institutional investor market, due to the under-development of pension, insurance funds and the asset management industry. Because these are institutions with a long-term framework and investment horizon, it may take decades to build up the proper institutions with depth, professional expertise and scale.

In other words, financial deepening is not just about the creation of new financial *markets*, such as inter-bank, bond, equity or foreign exchange markets, but also the nurturing of a range of financial *institutions* that play specialist roles in ensuring that the whole financial sector has the range of products, institutions and *infrastructure* in place to manage different types of risks, financial products and services, maturity, liquidity and solvency profiles. The work in this area deserves much more attention in the EMEs to build more "complete markets". "Complete" markets are more than just a trading and clearing platform, but also require a wide range of institutional investors and also more sophisticated intermediaries and enterprises. As designed, current EME stock markets have been much more speculative, concentrated and volatile than mature markets, mainly because they depend on retail investors who lack the experience and skills to invest over longer term financial cycles. Similarly, many SMEs lack the skills and capacity to list on formal exchanges, and regulators lack the professional skills and experience to provide the appropriate regulatory and supervisory framework so that these public and private markets are not manipulated, predatory and controlled by vested interests.

²² Asian Development Bank. 2008. Overview of Strategy and Schedule of Implementation Actions to promote the Development of an Integrated Capital Market to achieve the objectives of the AEC Blueprint 2015, Manila.

²³ Roth, Alvin E. 2015. [Who Gets What - And Why: The Hidden World of Matchmaking and Market Design](#). UK: William-Harper Collins.

The complexity of financial deepening arises from the fact that we are trying to achieve stable and evolving systems *within* dynamically evolving systems. In other words, financial systems interact with the real sector and with also financial systems abroad, creating different feedback mechanisms that national regulators cannot monitor adequately. This raises levels of multi-dimensional change with many constraints that are neither linear nor simple.

As we can see from the simple linear approach, which is discussed below, there is a real danger that we become optimistic-biased, thinking that the trajectory of EME financial deepening is necessarily rosy.

The pioneering work of Nassim Taleb, Alvin Roth and the crisis experience of the GFC and China A-share experience suggest that financial deepening is much more complex than previously thought, requiring very careful sequencing of institution building and human resource skills, especially at the policy formulation, regulation and supervision areas.

Much can be done at the domestic level, but national financial systems today interact far more with the global economy through the channels of trade and capital account liberalization than ever before. Consequently, domestic financial deepening cannot be examined independently of the international financial architecture.

3. International Financial System

The current international financial architecture is a legacy of the post-war Bretton Woods architecture, centred on US dollar dominance and a philosophy of global free trade and open capital markets. As long as the U.S. economy remained dominant, the system was reasonably stable. The first instability came when the U.S. ran ever-larger current account deficits and abandoned the link to gold in 1971, moving the world onto a period of “floating” exchange rates. The Triffin Dilemma pointed towards the conflict between the domestic monetary policy needs of the reserve currency economy and the liquidity needs at the global level. As the U.S. maintained larger current account deficits, it created global liquidity, but exposed the U.S. to loss of monetary and fiscal discipline.

The dangers of excessive domestic credit expansion with loss of monetary and fiscal discipline came into focus with the U.S. subprime crisis of 2007, when the household sector and the financial sector became dangerously over-leveraged. In bailing out the financial sector and suffering from a decline in revenues, the U.S. Federal Government also took on a larger fiscal debt, which could only be financed by lower interest rates. The fiscal debt of European and Japanese economies also increased sharply, with OECD country sovereign debt rising to nearly 100per cent of GDP.

In the post-GFC period, Rogoff and Reinhart reminded us that the best indicator of crises was a rapid growth in debt.²⁴ However, the dangers of excessive debt are nothing new. Irving Fisher (1933) was the first to highlight the dangers of a debt-deflation depression.²⁵ Charles Kindleberger (1978) added a global context, pointing out the dangers of a world lacking unitary monetary, fiscal and regulatory policies, including an international lender of last resort.²⁶ In Japan, Nomura Chief Economist Richard Koo (2011) highlighted the dangers of a balance sheet recession when over-stretched debtors, governments, corporations and households deleverage in order to rebuild their balance sheets.²⁷

With the benefit of hindsight, it is apparent that the GFC followed on from the AFC because the Fed started easing monetary policy in 1998 to help reflate the Asian crisis economies and subsequently to counter the tech bubble of 2000. What followed was a long period of growth with low inflation – what Greenspan called the Great Moderation.

Between 2000-2007, as the U.S. and European economies enjoyed favourable growth, the rising U.S. large current account deficits pumped US dollars into the surplus economies, such as China, Japan and the oil exporters. These dollars were recycled back into New York in the form of surplus economies' holdings of U.S. Treasury bills, which Wall Street and London pumped back into the EMEs in the form of direct and portfolio investments. Bernanke (2005)'s excess savings argument lamented that the Fed lost monetary policy effectiveness because the surplus countries kept on buying U.S. Treasuries, causing the long-bond yield to continually decline despite Fed monetary tightening.²⁸

In recent years, the economists at the BIS, led by Borio²⁹, Hyun Shin³⁰ and others, have argued that it was the combination of lax regulatory policy, financial innovation and the trading culture of the U.S. and European banks that created excess credit in US dollars and Euro, by lending off-balance sheet and off-shore making the financial system more and more leveraged and fragile.

Regulators in the U.S. and Europe would like to believe that it was the combination of unconventional monetary policy and regulatory reforms that saved the world from tipping into depression.

These helped, but the real displacement or shock stimulus to the global system was the November 2008 Chinese RMB 4 trillion (US\$600 billion) reflation, a classic Keynesian stimulus package that pumped Chinese growth to above 10per cent per annum through massive

²⁴ Reinhart, Carmen M. & Kenneth S. Rogoff. 2009. *This Time is Different: Eight Centuries of Financial Folly*, Princeton University Press.

²⁵ Fisher, Irving. 1933. *The Debt-deflation Theory of Great Depressions*. Digitized for FRASER, Federal Reserve Bank of St. Louis.

²⁶ Kindleberger, Charles P. 1978. *Manias, Panics, and Crashes: A History of Financial Crises*. U.S.: John Wiley & Sons.

²⁷ Koo, Richard C. 2008. *The Holy Grail of Macroeconomics - Lessons from Japan's Great Recession* John Wiley & Sons.

²⁸ Bernanke, Ben S. 2005. *The Global Saving Glut and the U.S. Current Account Deficit*. Remarks at the Sandridge Lecture, Virginia Association of Economists, Richmond, Virginia.

²⁹ Borio, Claudio & Piti Disyatat. 2011. *Global Imbalances and the Financial Crisis: Link or No Link?* BIS Working Papers 346.

³⁰ Hyun Song Shin. 2011. *Global Banking Glut and Loan Risk Premium*. 12th Jacques Polak Annual Research Conference 10-11 November, 2011.

investment in infrastructure. This led to an unprecedented commodity boom for EMEs. Together with higher Chinese overseas foreign investment in Africa and Latin America, the EMEs became the main growth engine of the world.

The Chinese stimulus package was not wrong in intention, but overlooked two critical aspects that created huge problems for both China and the EMEs later. First, it was a missed opportunity to reduce excess production capacity in Chinese manufacturing and instead created excess capacity in commodity production in emerging markets that are now being unwound. This was also the strategic mistake made by the Japanese in their stimulus package in the 1990s after the stock market crash. They failed to eliminate domestic excess capacity but shifted capacity to the East Asian economies instead, thus laying the conditions for the AFC.

Second, China's massive infrastructure investments were financed by a huge debt binge, especially by the SOEs and the local government financing platforms. The Chinese banking system not only grew larger, but became even more profitable with fat interest rate margins. When the People's Bank of China decided to tighten interest rates in 2014, with tight controls on the banking system, the demand for credit at higher interest rates were satisfied by shadow banks, including P2P financial technology platforms that were willing to lend outside official oversight.

The first signs of financial fragility came in mid-2013, when Fed first began to consider an end to QE, leading to a market "taper tantrum", as all financial markets took fright. Capital began to flow out from the EMEs to the US dollar. Emerging markets like Brazil experienced capital outflows and the currency depreciated. As the ECB and Bank of Japan continued to pump liquidity to deal with the Greek crisis and Japanese deflation respectively, the Euro and Yen depreciated sharply against the dollar, so that the only two strong currencies were the dollar and the RMB, the latter not even fully convertible.

The McKinsey Global Institute (2015) revealed that the world has never been so much in debt, to the tune of nearly US\$200 trillion or 286per cent of world GDP, adding US\$57 trillion since 2007.³¹ Chinese debt leverage also rose to 282per cent of GDP, significantly higher than before the crisis.

There were several reasons for the debt binge. The first is that interest rates have never been so low, and basically, private markets have grown so large that they are willing to lend to EME sovereigns and corporations. Secondly, there was globally a tax bias for debt and against equity. Interest on debt is tax deductible and loan losses were also tax deductible. On the other hand, dividend income was taxable at source but capital losses were not tax deductible. Thirdly, companies could increase profits in the short-term by running higher levels of leverage, even though systemic risks rose as a consequence. Fourthly, the cost of capital (equity) was much higher to raise than debt in the form of loans or bonds. An IPO could cost as much as 3per cent to 7per cent of funds raised in leading stock markets, excluding other regulatory and advertising costs.

The result was that companies and governments borrowed off-balance sheet, off-shore and through related vehicles that disguised the level of true debt. The investment banks' role in assisting the Greek Government to disguise the size of its debt through derivatives was an example of such lapses.

In early 2015, it became clear that the world was getting close to the peak of the debt cycle. The BIS was already warning that sooner or later, central banks had to get back to "normal" policies by allowing interest rates to rise.

There are three reasons why the inherent weaknesses of the international monetary system are interactively leading to perhaps greater volatility in the global financial sector, without a set of policy tools to deal with such volatility.

Firstly, as the world moves from a unipolar world into multipolar centres of power, with the rise of China and emerging markets, the capacity of the dominant powers (the advanced countries) to enforce their influence on the rest of the world becomes diminished. This creates greater uncertainties and also lack of coordination in dealing with global public goods and crisis management. For example, mainly because the fiscal capacity of the advanced countries is constrained, the inability of the dominant shareholders of the Bretton Wood institutions and multilateral development banks (MDBs) to increase their capital means that the capacity of the Bretton Wood institutions and MDBs to handle future financial crises has been diminished.

Secondly, globalization has advanced to such a degree that no economy is able to insulate itself completely from external shocks that can pro-cyclically exacerbate domestic imbalances that feedback into the global economy to generate global imbalances. It could be argued that the secular stagnation in the advanced countries arising from their domestic structural weaknesses are being transmitted to the EMEs, which are even less capable of dealing with reduced external demand, capital outflows and implosions of domestic asset and debt bubbles. The current slowdown in the global economy, at a time when the Fed is considering raising interest rates, is causing capital flight back to the advanced countries, thus weakening the EME's balance of payments situation, further weakening global aggregate demand and therefore feeding back to slower growth in the advanced economies.

Thirdly, with collective action traps at the global and national levels, since it is difficult to achieve democratic consensus on taking tough measures to deal with structural imbalances, the EMEs face even greater challenges of independently moving out of the collective action trap. The current debt-deflation trap is due to an overwhelming intellectual fixation on debt as both the cause and effect of global and domestic imbalances. Initially, it was thought – after the AFC – that only debt in foreign exchange was a problem, without realizing that foreign investment in domestic currency debt could also be withdrawn through currency hedging back into foreign currency

Consequently the world is moving towards a global debt deflation trap because no single economy is large enough to pull the world out of the trap, nor can a global consensus be reached on a coordinated set of policy tools to push the world economy out of that trap.

³¹ Dobbs, Richard, Susan Lund, Mina Mutafchieva & Jonathan Woetzel. 2015. "[Debt and \(Not Much\) Deleveraging.](#)" McKinsey Global Institute.

Individual EMEs certainly cannot break out of the global deflation trap on their own, unless they are able to achieve either debt-write offs or are able to devalue substantially to re-generate domestic growth.

There are several solutions to excessive debt – austerity, inflation, debt write-offs or debt/equity swaps, growth or war (leading to cancellation of debt).

As the Greek debt crisis has demonstrated, surplus countries are unwilling to extend further credit without austerity measures on the debtor economy. But pushing interest rates lower to maintain higher levels of debt, which leads to currency devaluation, is also unsustainable, because global devaluation of currencies is self-defeating, sending everyone into further low-level equilibrium traps.

Whilst advanced countries do not fear inflation because of global excess capacity, the EMEs cannot run inflationary policies without facing social unrest and/or financial crises.

As the Bellagio White Paper has pointed out, there are serious market failures, when exceptionally low levels of interest rates seem both unable to promote much-needed financing for long-term infrastructure, nor boost aggregate demand. Indeed, it can be argued that further central bank expansion of their balance sheets is adding to global risks because they supplant the normal functioning of markets.

Furthermore, when the benchmark currency and risk-free sovereign paper is yielding exceptionally low levels of interest, individual EMEs cannot undertake very divergent interest rate policies without paying the price of large capital inflows, high exchange rates and vulnerability to asset bubbles. It would appear therefore that the world is now caught in a low interest rate level Mundell Trilemma, in which if an individual EME pegs to the US dollar, it would lose monetary independence and suffer the consequences of asset bubbles, but if it adopts flexible exchange rates, it may also be vulnerable to large capital flows unless it is able to maintain credible exchange controls or macro-prudential controls.

The common sense question which few seem to ask is whether we can get out the debt trap through further increases in leverage, either through running larger fiscal deficits or increasing the leverage of financial institutions and the corporate/household sectors. It could be argued that at current rates of historically low interest rates, those individual borrowers who can achieve TBTF status are being subsidized by the savers in the economy, who are “trapped” either because they have few alternative sources of investments (such as portfolio restrictions) or because of the “chase for yield”, assuming higher credit and default risks, on the assumption that central banks would continue to bail out the system with more unconventional monetary policy. Indeed, given the huge uncertainties and fragilities in the system, the risk-rewards of increasing debt for EMEs are simply not sustainable, since interest rate returns (even with risk premium for EMEs) are too low relative to the risks of credit default or loss of the real value of debt principal (through inflation, exchange rate devaluation or sovereign defaults).

There are several reasons why the world remains fixated on debt. The first is denial of economic losses, as long as the nominal value of debt remains on the book of the lender. Such denial occurred during the Greek debt crisis, because acceptance of debt default would have led to massive re-capitalization of the lending banks. The second is the tax-bias for debt and against equity, as explained earlier in this Section. The third is that debt reinforces the current state of inequality, whereby the incumbent elite maintains control over the indebted classes.

This paper argues that the long-term solution for individual EMEs to get out of the debt deflation trap is to boost the domestic share of equity relative to debt. There are several sound reasons for this course of action. The first is that the equity cushion is the only prudent absorber of risks and unknown unknowns in a world of increasing uncertainties. If global risks are likely to increase, it is better to be less reliant on external debt and depend more on long-term equity. The second reason is that equity is about risk-sharing, rather than risk-shifting, since both the investor-investee share in the project’s risks going forward. This is more equitable than the current debt contracts whereby the borrower bears more pain than lenders, who also obtain tax subsidies for loan losses. Thirdly, the risk-reward balance of equity contracts is more symmetric, since the upside of total returns for equity is higher than those for debt contracts.

The logic for debt equity swaps for EMEs, before they get further into debt, is as follows. EMEs as a whole are not net borrowers, but net lenders in the international community. With younger demographic profiles and growing economies, their performance is likely to generate higher risks with higher returns (or growth), subject to governance issues. The current bank-dominated EME financial system has proven to be fragile, concentrated and inequitable. Banks inherently run large maturity-mismatches and are risk-adverse, proving hitherto to be unwilling to lend inclusively to SMEs with higher risks nor to finance long-term infrastructure. Tightly regulated banking systems with deposit insurance make them the equivalent of state-owned enterprises, with the inevitable intrusion of less efficiency and market-responsiveness to changing market needs.

Since banks usually pay deposit rates that are below inflation rates, the poor are paying a repression tax that is inequitable. Furthermore, central bank bailouts of failed banking systems almost inevitably engage in lower interest rate policies or use inflation to wipe out debt, leading to even further social inequity.

Consequently, the only equitable way to have sustainable finance is by rebalancing debt towards equity, which will pay savers a return equal to inflation and attendant risks. With higher capital, banking systems can undertake debt-equity swaps and enjoy the high return options from investing in their SME customers. In other words, universal bankers can benefit from investments in their SME customers, with a portfolio approach to returns on investments – knowing that equity returns on a small percentage of their SMEs could yield sufficient returns to cover their loan and equity losses on the whole portfolio. This is the Silicon Valley approach towards investing in startups in technology companies.

In essence, an equity-based financial system is therefore likely to be more equitable, risk-sharing and able to finance sustainable development over the long-term than the current debt-based system.

But at the system level, if all EMEs become more equity-based, would the global system also slip into a low level equilibrium trap? The answer is not obvious, because strictly speaking, lower leverage means higher capacity to absorb risks and the returns on equity should be higher, so the system is more balanced with a symmetric risk-reward system.

In other words, provided that real opportunities for profit exist in EMEs, there is no reason why capital flows should not be in the form of portfolio or direct foreign investments, rather than in debt flows.

The implications of promoting an equity-based financial system for EME financial systems will be further examined in Section 6.

4. Projections on Financial Deepening in Asia to 2050³²

This section reviews recent work on projections for EME financial deepening to 2050 and the transformative trends that impact on EME development.

The ADB's Asia 2050 study (2011) on Asian finance³³ suggested that the size of Asian financial markets could amount to half of the world financial assets by 2050 if the GDP projections are attained. The ADB report warned that such growth is neither inevitable nor pre-ordained. Much needs to be done in the area of the appropriate policies and also good governance.

To develop more efficient and robust financial markets, the study called for the radical transformation of financial and structural policies to shift from low-risk activities and proprietary trading towards the funding of small and medium enterprises (SME) and micro-financing, infrastructure financing, housing and environmental protection. Although much needs to be done at the national level, a lot will depend upon regional and international cooperation. To realize the ADB's Asian Century scenario, Asia must be globally responsible especially in adopting lifestyle changes that contribute to sustainability. This requires the financial sector to play a supportive monetary and credit disciplinary role.

The Fung Global Institute-Oliver Wyman Asian Finance 2020 study (2013) saw SMEs, trade and infrastructure investment as the three main drivers of Asia's economic development to 2020. The success of these three growth sectors will drive the transformation of Asia to a prosperous, inclusive and environmentally sustainable economy. However, these drivers will stumble without reliable financing delivered through products and channels properly adapted to the needs of firms in the real economy. This is worrisome because the current Asian financial system is not well positioned to deliver such needed financing, especially in the area of equity funding, rather than debt. To achieve this, Asian regulators must pursue six major "policy enablers", (1) coordinated regional policy, (2) risk and stress testing capabilities, (3) targeted central bank support, (4) SME and retail-focused payment system, (5) efficient and integrated capital markets and (6) incentives alignment. Success of these policy "enablers" can only be achieved if the public and the private sectors work together effectively.

The 2014 Asia-Pacific Financial Forum Report (prepared for the November 2014 APEC Leaders Summit) looked at what was needed to strengthen regional cooperation in the area of finance. The report raised the issues on transformative shifts involving re-balancing, demographics, urbanization, rising wealth, and technology disruption. These shifts will affect the design of the APEC Financial Architecture. The region and the world is mired in a collective action trap because national regulators cannot deal with global markets outside their jurisdiction where regulatory and tax arbitrage, and complex feedback mechanisms and spillovers are beyond the control of global, regional or national systems.

There is an imperative to re-design financial systems to fit the real sector needs and to change incentives. The Sydney Symposium³⁴ identified six priority areas for action: (1) lending infrastructure (credit information sharing systems and legal and institutional framework governing security interests), (2) trade and supply chain finance, (3) capital markets (focus on classic repo markets, legal infrastructure, information for capital market investors and the Asia Region Funds Passport), (4) financial market infrastructure and cross-border practices, (5) insurance and retirement income and (6) linkages and structural issues.

The Australian Financial System Inquiry, chaired by David Murray, was launched in 2013 and its final report³⁵ on medium and long-term issues for the Australian financial system seek to help Australia become more productive, grow and meet its financial needs. As Australia is an OECD member, its advanced financial system with deep pension schemes, considered one of the better-designed systems, has many lessons for the design of EME financial systems.

The Murray report seeks a financial system that is efficient, resilient and fair. It concentrated on improvements to the financial system in funding the Australian economy and also competition, identifying the impediments to efficient market allocation, such as taxation, information imbalances and unnecessary regulation. Considerable emphasis was placed on the improvement of superannuation and retirement incomes and on technology-driven innovation to transform the financial system. The report also considered that fair treatment for consumers is critical in the design and distribution of financial products, and that Australia needed strong, independent

³² This is a summary of a more comprehensive survey by Mrs. Tan Wai Kuen in the longer monograph on EME Finance to 2050.

³³ See Chapter 8, "Realizing the Asian Century: Financial Transformation", by Andrew Sheng. In Asian Development Bank. (2011). "Asia 2050: Realizing the Asian century." Singapore: ADB.

³⁴ APEC Business Advisory Council. 2014. "Asia-Pacific Financial Forum: Interim Report to the APEC Finance Ministers." Asia-Pacific Economic Cooperation.

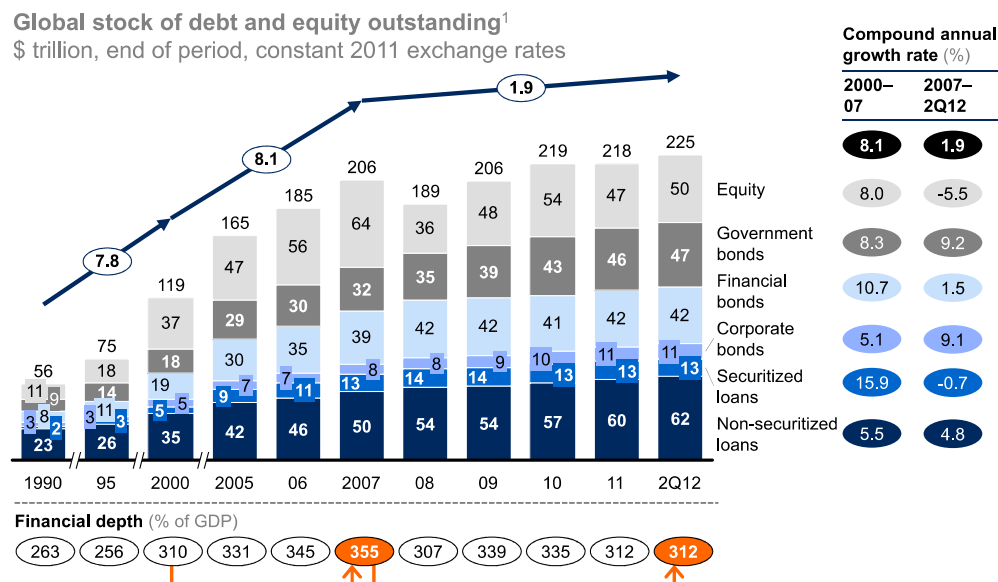
³⁵ Financial System Inquiry. 2014. "Interim Report" and "Final Report" Commonwealth of Australia.

and accountable regulators to help maintain confidence and trust in the system. These objectives are in line with those of EME financial systems.

4.1 Current View of Finance through 2050

In March 2013, the McKinsey Global Institute (MGI) drew on its proprietary database of financial assets in 183 countries to review the current state of financial markets. In "Financial Globalization: Retreat or reset?", MGI found that global financial assets had stalled in the four and a half years since the global financial crisis began in 2007, growing by just 1.9 per cent annually to stand at US\$225 trillion as at mid-2012, compared with an average annual growth of 7.9 per cent from 1990 to 2007.

Figure 4.1: Growth in Global Financial Assets
Global financial assets have grown to \$225 trillion, but growth has slowed since 2007



¹ Based on a sample of 183 countries.
 SOURCE: McKinsey Global Institute Financial Assets Database; McKinsey Global Institute analysis

Financial market development in emerging economies had also slowed down - as of 2012, their financial depth averaged 157 per cent of GDP, compared with a ratio of 408 per cent of GDP in the advanced economies.

The Group of Thirty (G30) Working Group Study on Long-term Finance and Economic Growth, published in 2013, was a response to G30's concern over the overarching issue of providing sufficient long-term finance to bring about sustainable economic growth and job creation in advanced and emerging economies.

However, the G30 report also highlighted three major trends that are likely to constrain the future supply of long-term finance, namely, bank deleveraging and new regulation; fiscal consolidation; and aging populations.

To address these issues, the report offered 15 specific proposals grouped under five core objectives that cover:

- Ensure investors are better able to take a long-term horizon in their investment decisions.
- Create new intermediaries and instruments geared toward the provision of long-term finance through various public-private cooperation options.
- Develop debt and equity capital markets in order to promote a broad spectrum of financing instruments.
- Ensure that cross-border flows support the efficient global allocation of capital to long-term investment.
- Strengthen systemic analysis when setting future regulatory policy.

Two related reports by PricewaterhouseCoopers International (PwC) network of member firms provided GDP projections for the world's 22 largest economies up to 2050³⁶ and based on these underlying macroeconomic trends, derived the size of domestic banking assets and the long term trends in banking until 2050³⁷.

PwC used its own short-term projections for real GDP growth from 2009-2014 to estimate the long-term trend growth from 2015 to 2050. An important assumption is that both AEs and EMEs adopt broadly growth-friendly policies, but the principal differentiating factor in growth rates are growth in the labor force, increase in human capital proxied by average education levels, growth in physical capital stock and total factor productivity resulting from technological progress.

³⁶ PwC. 2011, January. "The World In 2050 – The Accelerating Shift of Global Economic Power: Challenges and Opportunities."

³⁷ PwC. 2011, May. "Banking in 2050."

Based on GDP at market exchange rates (MERs), the EMEs are likely to overtake the AEs by 2050. China is likely to be larger than the U.S. economy before 2035 and the leading EMEs (China, India, Brazil, Russia, Indonesia, Mexico, Turkey, South Africa, Argentina, Saudi Arabia, Nigeria and Vietnam) would overtake the G7 before 2040. India would be the third largest economy in the world by 2050, well ahead of Japan and not too far behind the U.S.

PwC's report on Banking in 2050 quantified the projected size and growth of the banking sectors for different economies. One of the key findings is that by 2050, the leading EMEs could have domestic banking assets and profits that exceed those in the G7 by around 50 per cent. Out of projected global banking assets of US\$320 trillion in 2050, close to half would be in the leading EMEs, whereas the G7 share could be around 31 per cent or US\$100 trillion.

4.2 Summary Observations of Current Projections

The above brief survey showed that most studies expect that the emerging markets will grow to match or exceed the advanced markets' GDP size by 2050 and that the financial deepening will also be significant, because a number of the larger emerging markets like China and India would reach advanced country status.

These studies revealed common traits and patterns on the future role of finance:

- The current financial model is out of balance.
- To serve the real sector, finance must get back to the basics of (a) efficient resource allocation, (b) good price discovery, (c) sound risk management, (d) enforce governance and discipline, including on itself and (f) be fair and accessible.
- Finance must help deal with major challenges of economic and social transformation, in issues ranging from urbanization, demographics, climate change, social inequities, global imbalances and technological innovation.
- Financial deepening does not proceed in a straight line – each country will have to examine what is “best fit”, rather than working on “best practice”.
- Financial business models must also adapt to the changing environment.
- As emerging market economies (EMEs) grow, the International Monetary System (IMS) will also be changed from an unipolar to multipolar system that will not be easy to coordinate.
- Regional cooperation must be strengthened: South-South cooperation and East-West cooperation are key to systemic stability.

4.3 Projections of EME Financial Deepening to 2050³⁸

This Section develops a set of projections to illustrate that at different levels of national income per capita, the depth and breadth of the financial sector will change in both magnitude and quality. The projections are built upon and consistent with the long-term GDP projections by Arnold, Kohli and Szyf (2012) underpinning the EME 2050 study. Essentially, the methodology is similar to that used in the Asia 2050 study (2011) by using the 2010 financial sector structure data of the IMF and the World Bank financial deepening indicators. Given the many uncertainties involved, the projections are only broad in sketch and not meant to be precise.

The basic insight from this linear growth projection, based on current financial deepening indicators is that if the GDP growth projections are correct and EME financial deepening proceeds along current trends, then EME financial assets would begin to surpass the financial assets of the advanced economies by 2035. Thereafter by growing at a fast average annual rate of 8.6 per cent for the next 15 years, EME financial assets are projected to reach US\$713 trillion in 2050, or more than one and a half times larger than the AE's combined financial asset size of US\$420 trillion. This conclusion is similar to that obtained in the earlier Asia 2050 study. Emerging Asia itself will account for 76.3 per cent of EMEs' financial assets in 2050, followed by Latin America (10.7 per cent share), emerging Europe (6.9 per cent), the Middle East (4.6 per cent) and Africa (1.5 per cent).

In 2009, Asia accounted for 27 per cent of global GDP and 23 per cent of global financial assets (ADB, 2011). By 2012, these shares had increased to 29 per cent and 28 per cent respectively. In terms of growth, Asia's GDP grew by 7.4 per cent, but the financial sector grew three times faster by 21.7 per cent. By 2050, Asia's share of global GDP is projected to almost double to 51 per cent, matched by a rise in Asian financial assets to 46 per cent of global financial assets.

4.4 Methodology for 2050 Projections

The projections for this report used the long-term global GDP growth projections by Arnold, Kohli and Szyf (2012)³⁹ as a starting point. Their model is a simulation of two scenarios: an optimistic scenario and a pessimistic scenario. Based on these GDP projections, two linear methods of analysis were used to derive the ratio of financial assets in relation to GDP and their growth trends up to 2050. Method 1 entails a computation of the ratios of global finance to global GDP. These ratios are then projected to 2050 based a simple ratio-allocation method. As a result, there was no significant difference in the ratios under the optimistic and pessimistic scenarios.

³⁸ This is a summary of a more comprehensive paper on projections to 2050 by Associate Professors Kwek Kian Teng and Cho Cho Wai (forthcoming).

³⁹ Kohli, Szyf, and Arnold (2012) model specifies potential GDP (full employment) and no short-term business cycles. Their GDP projections are modeled in three units: (a) Real GDP (constant 2010 US dollars), (b) PPP GDP (constant 2010 PPP international dollars, defined below), and (c) GDP at expected market exchange rates, which incorporates exchange rate movements and serves as this study's best proxy for nominal GDP.

Method 2 applies a long-term model using the co-integration model. Dynamic simultaneous econometric models are estimated through formulation of long term or co-integration models and under this method, there was a distinction between the 2050 financial projections for the optimistic and pessimistic scenarios.

The ratios of global financial assets to global GDP at market exchange rates for the period 2001 to 2012 were calculated from the existing databases of the IMF's Global Financial Stability Report (GFSR). The global financial assets are an aggregate of the bank assets, bonds, and equities of 159 countries, extracted from the GFSR (IMF, various issues)⁴⁰. Estimates were made for 2013 and 2014 based on the two GDP growth scenarios of Arnold, Kohli and Szyf (2012). The next step was to project the ratios of global financial assets to global GDP until 2050, firstly for the optimistic scenario and secondly for the pessimistic scenario.

4.5 Financial Projections for EMEs under Optimistic and Pessimistic Scenarios

The preliminary results suggest that even under the pessimistic scenarios, the EMEs would have GDP levels higher than that of the AEs by 2050 (Table 4.1). By 2050, the financial assets of the EMEs would under various scenarios also be larger than that of the AEs, mainly due to lower levels of savings in AEs, aging population and slower growth.

However, interestingly, the projections show that the size of equities in EMEs would also become larger than the debt securities by 2050 under all the different scenarios. By 2050, under both the baseline and optimistic scenarios, the size of equities will be roughly US\$40 trillion larger than the bond market. Moreover, even in a pessimistic scenario, equities would still be US\$20 trillion larger than the bond market. These simulated models do strongly suggest that Asia's financial landscape in 2050 would be to rebalance the three financial markets.

Table 4.1 Projections of GDP and Financial Asset Share, AE vs. EME to 2050

As of 2050	M1 Baseline	M1 Optimistic M1 Pessimistic	
	GDP Share FA Share	GDP share FA Share	GDP Share FA Share
	In per cent	In per cent	In per cent
EME*	57 53	61 56 73	70
AE	43 47	39 44 27	30

Source: K.T. Kwek and C.C. Wai, 2014, Projections of Financial Deepening to 2050 (forthcoming) *Preliminary and subject to revision.

4.6 Broad Regional Trends through 2050

The broad regional growth trends of the financial sector are derived from both Method 1 (simple ratio allocation) and Method 2 (long-run co-integration model)⁴¹. All point to Emerging Asia's financial sector growing the fastest compared to the advanced economies and the other emerging regions. The decomposition of the financial sectors also shows that the bank assets would be the largest contributor to financial deepening, stemming from the large accumulation of savings in Asia.

Under the baseline model, Emerging Asia's share has grown from 70 per cent in 2012 to 76 per cent in 2050. Under the optimistic scenario, Emerging Asia's share will rise to 72 per cent, and under the pessimistic scenario, Emerging Asia's share will reduce to 64 per cent from 70 per cent. However, in the very long run, Emerging Asia's share of the financial sector could also grow to 80 per cent. This can only occur when there is high financial deepening supported by structural change and innovation.

Overall, the figures suggest that both Emerging Asia's real sector and the financial sector will continue to grow relatively fast compared to Advanced Economies and the other regions. In the comparative decomposition of the financial sector of EMEs, the projections continue to show that the bank assets for Emerging Asia would be the largest contributor to financial deepening.

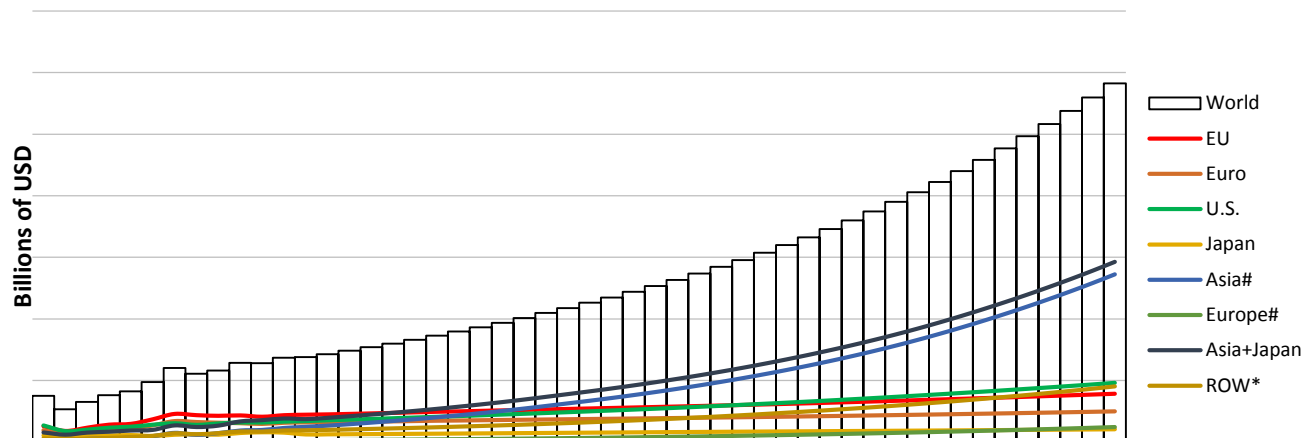
Interestingly, however, it can also be seen that the size of equities would also become larger than the debt securities by 2050 under all the different scenarios (Figure 4.2). By 2050, under both the baseline and optimistic scenarios, the size of equities will be roughly US\$40 trillion larger than the bond market. Moreover, even in a pessimistic scenario, equities would still be US\$20 trillion larger than the bond market. These simulated models do strongly suggest that Asia's financial landscape in 2050 would be to rebalance the three financial sectors.

⁴⁰ IMF Global Financial Stability Report, Statistical Appendix, Table 1. *Capital Market Size: Selected Indicators, various issues.*

⁴¹ Baseline global patterns of the financial sector are based on the long-term GDP projections built by Arnold, Kohli and Szyf (2012).

Method 1: Baseline Model

Figure 4.2: Bonds, Equities, and Bank Assets Projection Based on Baseline GDP Projection



Notes

*ROW excluding U.S., EU, Japan, Asia, and Europe

Emerging Market Economies

Source: Authors' projections, 2014.

5. Balance Sheet Approach

5.1 Flow of Funds and National Balance Sheet Approach, based on U.S. Historical Data, 1945-2013

The above linear projections of financial deepening by EMEs based on linear projections of GDP are likely to have optimism-bias, since whether emerging market economies (EMEs) can overtake advanced economies (AEs) by GDP size and financial deepening (market size) is neither inevitable nor pre-ordained. The evolution of the global economy and financial system, especially between EMEs and AEs, are interactive, interdependent and all are subject to major transformative trends. These include demographics, urbanization, technology, climate change, natural disasters and territorial conflicts, any one of which can change the game in terms of winners and losers. Some caution should be exercised in interpreting these projections.

In reality, finance and the real economy/society are complex systems evolving within complex systems, their behavior is non-linear and multi-dimensional. Consequently, there are complex trade-offs between size, efficiency, stability and access (fairness) of financial systems.

In other words, the interaction and interdependence of real growth and financial deepening is multi-dimensional and simple linear projections underestimate the complex interactions, which have feedback mechanisms that are difficult to predict. It is these feedback mechanisms, such as panic, contagion and crises that disrupt growth and often lead to pro-cyclical behavior that create booms and busts.

To be sustainable, social and economic development in all institutions, including at the national level, must satisfy three hard budget constraints. These constraints have often been overlooked in contemporary development theory, because they are so obvious and under-examined. These hard budget constraints comprise:

- (a) **Flow constraint** – revenue or income must be higher than costs. In Schumpeterian terms, value creation through entrepreneurship must be higher than creative destruction. Flows are also related to pricing. The pricing of the return on capital must be higher than its costs, after adjusting for risks and uncertainty. One of the key problems of the current system is that governments have “protected” consumers from taking high risks and getting high rewards, so that they are forced to save in bank deposits, subjecting them to the financial repression tax. This meant that the state has borne the residue risk of systemic failure, which is a quasi-fiscal deficit.
- (b) **Stock constraint** – the balance sheet consideration – the nation or social entity as a whole must be solvent, with sufficient net resources to cover its obligations or debt. In a closed economy, the state is always solvent, since it has the power to tax. But in an open economy, insolvency can occur in a foreign exchange crisis, because the state cannot pay its foreign debt. Hence, the state must have solvency in both domestic and foreign terms. Conceptually, the world as a whole is in balance, but at any point, there are deficit and surplus economies, and the imbalance can be destabilizing for the system as a whole. The dilemma is that the current IMS is not equipped to enforce discipline to bring the system into stable balance.
- (c) **Distributional or political constraint** – even if (a) + (b) are satisfied, the state or leadership must be able to tax winners to compensate losers in any institution. If it is not able to do so, fragmentation occurs. This is the binding or inclusivity constraint. To achieve this is already difficult at the national level, but it is worse at the global level, since the world does not have a unified fiscal and distributional system.

There may be a further Eco-constraint, in which sustainable development is about finding the right balance between exploitation of natural resources without harming the ecological balance of nature to rejuvenate itself. The subject on the safe limits of human

exploitation of nature is currently hugely controversial and under-researched, and is outside the scope of this paper. We take the view that EMEs need to move towards energy and resource conservation in order to meet this requirement and that environmental sustainability is a public good towards which all EMEs should aim for.

5.2 National Balance Sheet Approach

This section looks backward to examine in depth the evolution of the U.S. flow of funds and national balance sheet data as an example how the national balance sheet and flow of funds data provide a better base for analysis of financial deepening patterns and relationships. The U.S. is the only advanced country to produce long time series data dating back to 1945, which gives a 70-year history of how the financial sector funded real sector changes. This longitudinal review enables EME researchers to think through how the financial sector funds investments in land, fixed assets and inventory through a combination of debt and equity. The study suggests that finance does not evolve in a linear-fashion, but through booms and busts that create disruptions in innovation, adaptation and change.

GDP is a flow concept but finance relationships are based on stock concepts (e.g., leverage is a stock relationship between credit outstanding and equity funds). National balance sheet shows the interconnectivity and relationships in the financial system through a stock-flow approach. Financial stability in a large economy suffers from risk concentration by type of business activity and geographical location. Traditional economic analyses through flow accounts (national income, trade, investments) do not reveal these vulnerabilities.

By comparing leverage and where it resides in the national balance sheet, it is possible to detect an economy's state of robustness or its fragilities, particularly at the sectoral level.⁴² There is a need to identify sectoral risks as it can transform into national and later even global risks.

An economy's main sectoral balance sheet is made up of the government sector (including the central bank), the financial sector (mainly banks and non-bank financial intermediaries) and the non-financial sector (corporates and households). These sectors have claims on and liabilities to each other, and to external (non-resident) entities.

The four common types of risks to look out for when assessing balance sheet weaknesses are: (1) maturity mismatch, (2) currency mismatch, (3) capital structure mismatch, and (4) solvency mismatch.

The sectoral balance sheets reveal important information that is not obvious in the consolidated country balance sheet.⁴³ For example, it is common to net out the financial sector's gross assets with its liabilities, since the financial sector is an intermediary between the different subsectors in the real economy. However, the net liabilities disguise the gross fragilities that can build up within a system. If any single entity in a chain of financial contracts is unable to fulfill its obligations (through lack of liquidity), the system can seize up because of a chain reaction in contractual failures. Furthermore, if a domestic entity is unable to meet its obligations in foreign currency, and the domestic central bank is unable to supply that foreign currency, then a country can run into a balance of payments crisis. A domestic crisis can quickly multiply into a global crisis through such foreign exchange channels.

In other words, we need both cross-sectional data as well as longitudinal time series data to be able to have a fuller picture of how systems change over time.

Unfortunately, there are very few national balance sheets available for EMEs, with even less historical data to map out relationships between different countries. The statistical work is only just beginning.

However, a simple analysis of the U.S. flow of funds and national balance sheet data for 1945 to 2013, indicates how useful some of the data can be for future analysis of EME growth and financial deepening.

At the national level, there are very simple relationships which help to identify how the real sector is actually funded, revealing the robustness of the funding model.

$$\text{Net worth} = \text{Real Assets} + \text{Net Financial Assets} \pm \text{Net claim/liability to Rest of the World} \dots\dots\dots [1]$$

Re-arranging [1], we arrive at how Real Assets are funded, either domestically through debt instruments, equity, trade finance or borrowing from the rest of the world.

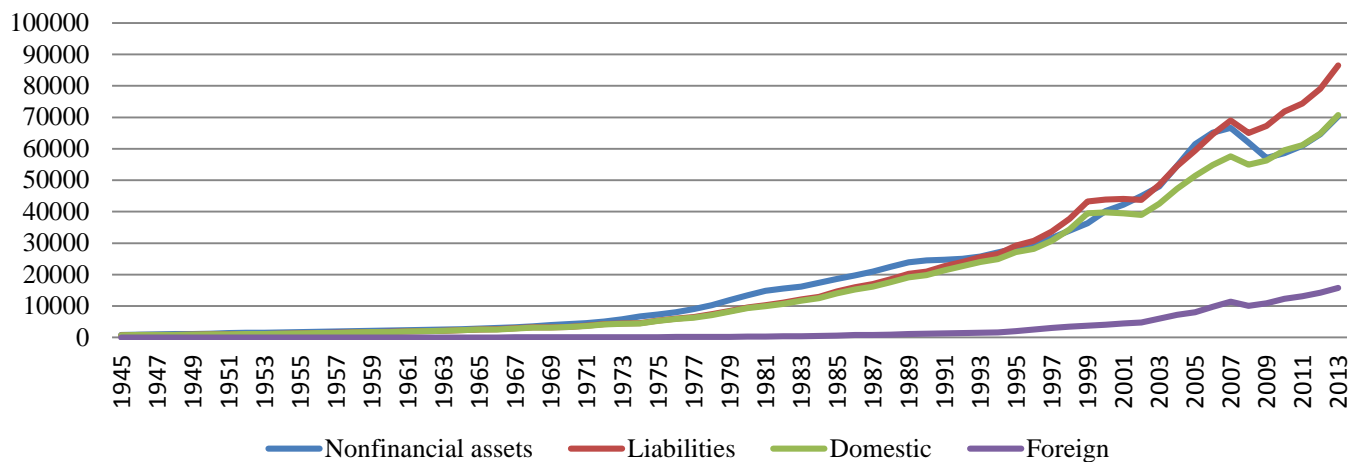
$$\text{Real Assets (mostly Fixed Assets and Land)} = \text{Net worth} \pm [\text{Debt} + \text{Equity} + \text{Trade finance} + \text{Net other financial instruments} + \text{Net debt to foreigners} \dots [2].$$

Figure 5.1 illustrates that the bulk of U.S. net worth was in investments in real assets (including inventory) and its growth largely tracked the growth of financial assets and liabilities until 1974, when the U.S. started becoming a net debtor to the rest of the world. By 2013, the U.S. owed a net debt to the rest of the world equivalent to US\$3.4 trillion or 20.2 per cent of GDP.

⁴² Allen, Mark, Christian Keller, Christoph Rosenberg, Nouriel Roubini & Brad Setser 2002. "[a Balance Sheet Approach to Financial Crisis](#)." IMF.

⁴³ Ibid.

Figure 5.1: U.S. - Outstanding Value of Real Assets versus Financial Liabilities of Nonfinancial Sector, 1946-2013



Source: U.S. Historical Flow of Funds Data, Federal Reserve Board, www.frb.gov.

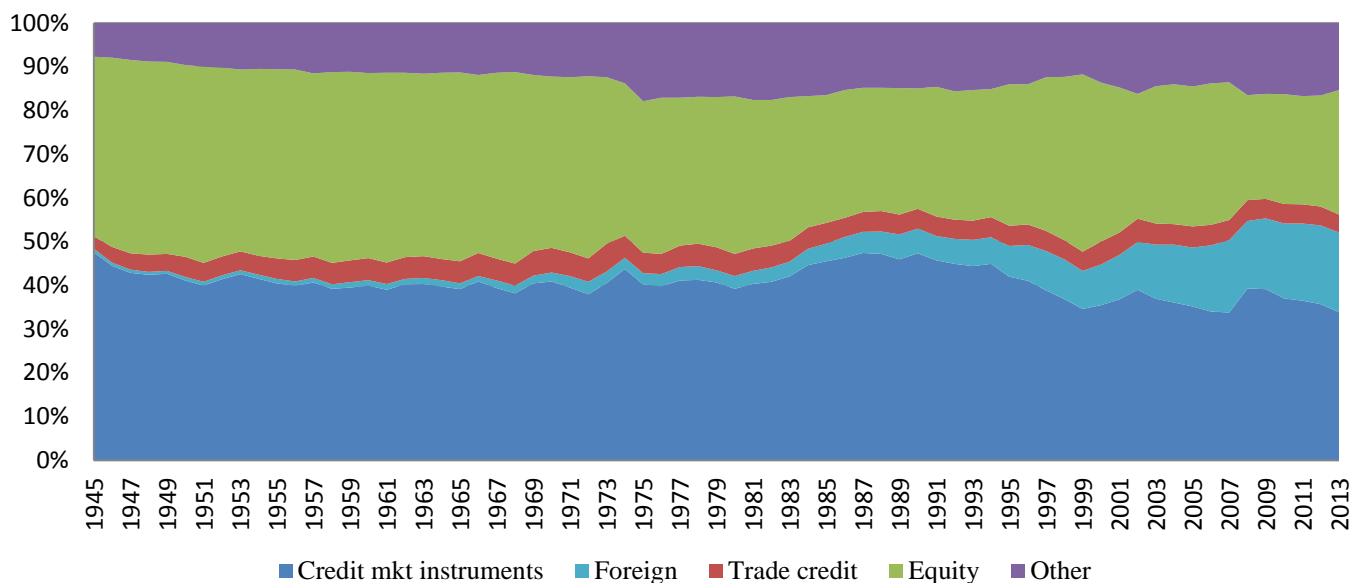
Figure 5.2 illustrates how the debt and leverage ratio of the U.S. has changed over time. Real assets varied between roughly 360 per cent of GDP to 470 per cent of GDP (in 1980 at the height of inflation and 2006, at the height of real estate bubble). The debt/equity ratio, using [credit instruments + trade credit]/equity as a proxy, rose steadily from about 100 per cent in the 1950s to 202 per cent in 1988, and then declined to 118 per cent by 1999 due to the boom in the stock market, before rising once again to a peak of 249 per cent in 2009.

Due to the rise in the stock market and property prices, there was an illusion of prosperity in terms of rise in net worth, both in terms of higher real estate value, but also in the size of financial assets. Between 2001-2006, real assets rose by 73 percentage points of GDP to 470 per cent of GDP, whereas financial assets also rose over the period 2001-2007 by 62 percentage points to 510 per cent of GDP. The crash in value of real and financial assets between 2006 and 2010 led to a 99 percentage points of GDP drop in net worth from a peak of 504 per cent of GDP to 405 per cent of GDP.

There has been some recovery in these wealth numbers, due mainly to the impact of QE and exceptionally low interest rates on real estate, stock and bond prices.

We have not had the opportunity to study further the interesting patterns that emerge when we study balance sheet relationships, but it is clear that the close interaction between real asset values and prices and funding model is crucial to understanding the fragility of financial systems over time.

Figure 5.2: U.S. - Funding of Real Assets of Nonfinancial Sectors, by Type of Instruments, 1946-2013



Source: U.S. Historical Flow of Funds Data, Federal Reserve Board, www.frb.gov.

6. Issues in EME Financial Sector Reform to 2050

The above surveys of financing deepening studies and projections using current linear models suggest that we need much better data in multiple dimensions to have more objective analyses of the challenges facing EME financial sectors so that they can be realigned to be more sustainable and to serve the real sector through structural change and innovation. This section comments on the crucial issues facing the reform of EME financial systems at the national and global levels.

Subsequent post-crisis reforms have addressed the problems of AEs, but not the multiple challenges facing EMEs. The combination of lowering of interest rates to almost zero and quantitative easing (QE) created a flood of capital flows to the EMEs, but in May 2013, with the threat of reversal of QE, capital outflows affected the EMEs badly, weakening their currencies raising of interest rates and slowing of EME growth.

The current state of affairs is not satisfactory. Advanced economies (AEs) are still mired in almost stagnant growth, and even the U.S. economy is growing below historical par. Europe faces daunting stagnant growth with high unemployment and the prospects of continued territorial conflict in the Ukraine. EME growth has slowed down significantly, with rising current account deficits as global trade has for the first time in years, grown slower than GDP.

The global regulatory reforms are also entering a period of controversy. At the height of the crisis, it was understandable that drastic measures were required to restore confidence in the financial system. The tightening of capital, liquidity and overall leverage ratios were needed to stop too-big-to-fail (TBTF) banks and shadow banks from creating further systemic crises through their own mistakes. However, as different nations and regions adopted different rules with different priorities, there is a real danger that the current reforms are likely to bring about a pro-cyclical bias towards slower growth, especially since QE is likely to be withdrawn as monetary policy in the AEs is being “normalized”.

EMEs are faced with the complex challenges of dealing with their own economic and social transformations to create jobs for the growing labor force, rising social inequity and also the stresses arising from climate change. At the same time, the external environment has become more hostile, because of territorial conflicts, growing complexity in global regulations, and the stresses arising from technology and social media. Society has become more polarized, mainly because of the growing inequality that has emerged, partly because of the role of financialization, which has enabled the rich to enjoy tax and access benefits to funding in order to leverage and benefit from asset bubbles.

In the meantime, the U.S. Dodd Frank requirement to subsidiarize all large foreign bank operations in the U.S. effectively balkanized global banking into national pockets of liquidity by law.⁴⁴ Furthermore, the decision of the Fed/FDIC to withdraw the lender of last resort facilities for “too-big-to-fail” (TBTF) banks meant that home central banks would have to build up larger foreign exchange reserves in the event that their banks get into US dollar liquidity trouble in the U.S. or elsewhere. The U.S. extra-territorial application of tax and sanctions has meant that there is less cooperation from countries that do not agree with these U.S. policies. The IMF quota reforms stalled when in 2013 the U.S. Congress rejected the quota adjustments that were agreed in 2009. In sum, given the fact that the AEs, which are the majority shareholders of the Bretton Woods institutions, are pre-occupied with their own fiscal and political problems, it is unlikely that there will be major reforms of the IMS, unless the EMEs begin to exert more pressure.

Finance was never meant to be a principal but an agent of the principal (the real sector) and as such, it exists to serve the real sector. However, the role of finance in the last 30 years has changed to one with proprietary trading, high leverage and bad behavior in the form of mis-selling, high frequency trading, insider dealing, market manipulation, and short-term speculation and predatory lending.

In short, the old paradigm of linear thinking and breaking down the whole problem into manageable parts has created a situation in which very few people have connected the dots and understood that the current crisis is a systemic crisis, with parts interacting and interdependent of each other, evolving systems within global systems. Furthermore, the system is regulated in silos, at the global level by nations with different interests, and at the national level, by different regulatory bureaucracies with their own narrow perspectives and bureaucratic self-interests. Fixing only one part of the system with more regulation without understanding how the spillover effects impact on the other parts is likely to add complexity, costs, without clear positive outcomes.

Much humility is called for in a situation of complex uncertainty. The next few sections elaborate on how a new systems paradigm can give policy makers a better appreciation of the challenges in facing EME financial and real sector issues.

6.1 *Paradigm Shift from Partial and Linear to Non-linear, Complex System-wide Thinking*

Post-crisis, there is better appreciation that the economy evolves in a non-linear complex manner with interactive feedback mechanisms that create change, sometimes through chaos. Institutions innovate in order to adapt to such new conditions, sometimes through legal change, often through changes in institutions (new institutional arrangements such as Sovereign Wealth Funds), processes and products.

Neoclassical economic analysis failed to cope with profound change because it assumed perfect information and an “optimal solution” for a system that will return to static equilibrium. In a situation of fundamental information asymmetry and radical uncertainty, institutions adapt to complexity by changing rules of the game, building up redundancy and capital in order to cope with instability. In other words, the world is always changing because we are witnessing system change within complex systems change that are interactive

⁴⁴ Sheng, Andrew. 2014. [“The New Global Financial Architecture.”](#) Global Economic Symposium, 6-8 September, Kuala Lumpur.

with each other. That creates dynamic uncertainty for which there must be capital to absorb potential shocks, so that society moves forward.

The pre-crisis unfettered finance paradigm that is driven by debt creation is seriously flawed, because it has fostered social inequality and systemic instability. We need to examine the role of finance in new, complex, inter-active and systemic perspectives. Some people call this the New Institutional Economics (and finance). This work is only just beginning, but the outlines of the approach would include the following:

- Finance is inseparable from the real sector, but the current debt-driven model is unsustainable and needs to change to one in which finance supports the real sector through risk-sharing⁴⁵, rather than one that is vested with the power to exacerbate inequality, hasten environmental consumption and degradation through risk-shifting, and fragile.
- Finance has become too debt-driven and there needs to be rebalancing between debt and equity towards deleveraging, with high risk EMEs requiring higher levels of equity (through stock markets and private equity mechanisms) to cushion themselves against more complex future unknown unknowns.
- Any linear projection of current trends based on past data is likely to be wrong, because it does not capture the constant, dynamic interaction at the cross-dimensional and cross-temporal levels between different financial, economic or political systems. We have yet to develop quantitative tools to describe and model such complex interactions. This paper has produced some linear projections and also surveyed existing studies that probably used the same methodology, but these are only presented to illustrate the general line of thinking, which are more likely to be wrong than right.
- For national systems to be efficient, stable, just and ecologically sustainable, there are three hard budget constraints which must be satisfied – the *flow* constraint that growth must be greater than costs (including externalities such as environmental degradation and pollution), the *stock* constraint that solvency must be higher than debt/obligations, and the *distributional or political* constraint of taxing winners to pay for losses in the system to maintain fairness. The world is entering a period of secular stagnation or debt deflation, partly because the (GDP) measurements of growth and development ignore spillover costs, environmental degradation, social justice and wellbeing. As a result of flawed measurements of performance and inability of politics to get out of collective action traps, there is over-reliance on “soft options” of monetary policy, and unwillingness to tackle the painful issues of loss recognition, income and wealth redistribution, job creation and dealing with long-term issues of climate change and social stability. Getting the right governance structure through appropriate incentives is more a political issue of social choice rather than pure economics.
- The situation is exacerbated with a flawed global financial architecture, because under current geopolitical realities, there does not exist any global distribution mechanism to deal with imbalances, as no global fiscal or central banking function is currently politically feasible. Hence, the international monetary system will continue to lurch from imbalance to imbalance, punctuated by crises.
- Reforms of the financial system therefore must deal with the issue of size (increasing leverage), fragility, inequality and focus less on the ruthless pursuit of efficiency per se, but concentrate more on the extent to which finance will support real sector innovation, social justice/inclusivity and investments in SMEs, infrastructure, including ecologically sustainable investments that reduce pollution, improve energy and resource usage, promote a sustainable lifestyle and is broadly systemically stable and resilient to endogenous and exogenous shocks.
- To expect the market per se to deal with such challenging tasks is naïve, but the role of the state in itself is also problematic. Not only is there no optimum policy-mix formula at the national level, it is near impossible to achieve consensus at the global level without a common set of values and shared beliefs.
- The task of re-thinking the role of finance in funding a sustainable lifestyle and environment is only beginning, but this could have radical and profound impact on the design of resilient and adaptable financial systems. For example, Islamic finance is an equity and ethics-based system that tries to be an alternative complement to mainstream debt-drive finance.
- We need competition of ideas to get finance to serve the real sector. There is no optimal or “one-size-fits-all” financial model for EMEs. All involve complex trade-offs, so encouraging system diversity, through experimentation and competition of ideas, policy options and outcomes, will produce a more robust and sustainable financial system.

In moving towards a rebalance of the finance role back to serving the real sector, there are several aspects that must be considered in depth. These are the role of finance in managing risks, resource allocation (funding growth and innovation), ensuring social equity (access and protecting consumers) and funding for environmental sustainability. Finally, the role of finance in supporting governance change needs to be explored. These are discussed in detail below.

6.2 Risk-share versus Risk transfer or Risk-shift

At the heart of the sustainability of finance issue is the question of “risk-shift” or “risk-share”? The essence of capitalism is that the entrepreneur bears uncertainty risks of his counterparty through his capital, so that there is trust in the contract as the entrepreneur bears the residual risks. However, the debt contract that is at the foundation of modern finance is based on the “risk-shift”, since the bank or financial intermediary shifts all risk to the borrowers. In recent years, tax laws have been changed to be more debt-friendly, because the interest and provisions against bad loans have become tax deductible. On the other hand, taxation on equity funding is biased, because dividend income is taxed, sometimes even twice (due to deduction at source) and capital losses are not tax deductible for the investor.

⁴⁵ Askari, Hossein, Obiyathulla Ismath Bacha & Abbas Mirakhor. “Risk Sharing in Corporate and Public Finance: The Contribution of Islamic Finance.” International Centre for Islamic Finance (INCEIF), 2015, (forthcoming).

Consequently, the financial system in both AEs and EMEs have become debt-driven, shifting risks to the real sector, which have become overleveraged as a result. When the financial sector itself becomes overleveraged, with capital adequacy ratios falling below 2 per cent of risk weights for some of the banks that failed, the risk is passed completely to the real sector in the form of the implicit deposit guarantee. The cost of rescuing the financial sector during 2007-2009 was estimated at US\$14 trillion, almost the GDP of the U.S., whilst annual subsidies of QE for European banks alone amounted to US\$300 billion (IMF).

To put the issue more starkly, if the real sector is largely funded through equity, the system absorbs risk and uncertainty through risk sharing with all shareholders and it would be very resilient to shocks. A strongly capitalized real sector will mean that risks for lending financial institutions will be small. The current situation in the advanced economies is one of a highly leveraged real sector (especially public sector debt), funded by a highly leveraged financial system and sustained by asking the central bank to issue more debt through QE. This current system shifts all risks to the real sector, within which the rich 1 per cent is able to hedge risks through short selling and shifting the risks to the 99 per cent.

In a situation of a liquidity trap for the AEs, which are also facing aging population, the future of EME finance is crucial to the trajectory of EME development. In other words, the funding of the future development strategy will determine whether EMEs will join the ranks of AEs by 2050, remain stuck in the Middle-Income trap, or slip back into crisis and under-development.

6.3 Law, Finance and Complexity

No discussion of finance can avoid the question of regulation and complexity. Complex systems exhibit the second law of thermodynamics, where entropy and complexity increases in non-linear fashion. The same has been observed about the rules that define property rights and facilitate their exchange.

In one of the most original studies on finance since the GFC, Columbia Professor Katharina Pistor has argued in her *Legal Theory of Finance*⁴⁶ (2013) that finance is legally constructed, defined by law and administrative enforcement. The financial sector can be seen as a web of legal contracts that define property rights, which are exchanged, traded, registered and disputed. The law seeks to protect property rights through the sanctity of contracts. However, a contract is fulfilled when there is cash to settle the contract. This imposes a liquidity requirement to fulfill financial contracts. If a large contract fails, it could lead to the failure of the counterparty, the financial intermediary and all that it contracts with through the web of contracts.

Unlike neoclassical theory, the Legal Theory of Finance (LTF) posits two basic premises of fundamental uncertainty and liquidity volatility. Given fundamental uncertainty, finance is not clear about rights, because there are risks and volatility in asset prices and values. The law operates to define certainty by drafting rules and regulations that define the rights, which are enforced by regulatory agencies. The result is increasing complexity, which creates incentives for “gaming the rules” requiring more regulations that are likely to be self-defeating. With radical uncertainty arising from spillovers and externalities, no amount of legal language can define rights that precisely, without huge transaction costs.

Law and finance are locked in a dynamic process of interdependence in which rules that establish the game are continuously being “gamed” by new contractual devices (financial innovation) based on regulatory arbitrage, which in turn seek legal vindication or reform. There are four stylized facts that support LTF:

- Financial assets are legally constructed.
- Law contributes to finance’s instability.
- There is a pecking order of the means of payment, which implies that finance is inherently hierarchical (and unstable).
- The binding nature of legal and contractual commitments tends to be inversely related to the hierarchy of finance: Law tends to be binding on the periphery and relatively more elastic at the apex of the financial system.

What the last point means is that the central bank provides liquidity to other central banks and its too-big-to-fail (TBTF) commercial banks under memoranda of understanding that is usually just a single piece of paper. Exigency and emergency requirements to stop crisis do not require too much refined details. However, the law covering debt contracts and derivative contracts is extremely complicated, backed not only by the law of contract, but also precedent cases from legal disputes on property rights.

What Pistor has done is to link law with institutions and also how human society and economy evolves in a hierarchical and multi-dimensional, interactive and interdependent manner. Human society evolved institutions and laws to deal with the uncertainties of nature and human interaction. Such hierarchy means that inequality is inherent in any society or economy, and government and markets as institutions are basically organizational means to deal with uncertainty and to “bind” people together and to “share” risks and uncertainty. It is when neoclassical views changed the risk-shift towards unequal absorption of loss or unequal access to opportunity that society polarizes and begins to fragment.

The problem with complexity is that it adds costs to transactions and reinforces inequality. Large entities with scale can afford to deal with complex situations, but small and medium sized enterprises cannot afford such high transaction costs arising from complex regulation or the complex and expensive software and hardware needed to manage complex financial systems.

⁴⁶ Pistor, Katharina. 2013. [“Towards a Legal Theory of Finance.”](#) Columbia University School of Law, ECGI Working Paper N°. 196/2013.

Prior to the crisis, many regulators ignored the fact that complex regulations increase inequality for smaller enterprises and consumers. Since EME financial systems are less sophisticated than AE financial systems, it is common sense to prioritize the global regulations that are important for domestic stability, such as higher capital and liquidity requirements and implement those that “fit” domestic conditions. In other words, EME financial regulations should not aim at “best practice” (which may be best for complex systems but costly for simple systems), but rather at “best fit”.

6.4 Finance and Innovation as Catalyst for Development

Taking a long view to 2050, the dilemma facing sustainable development and sustainable finance is that EMEs must create jobs, ensure social inclusiveness and environmental sustainability in a fair and transparent manner.

Recent research by Rodrik and Hausmann suggests that the key to development lies in innovation through knowledge-based creativity. This conclusion is almost obvious since there are limits to land and with population reaching its peak at the global level by 2050, even labor inputs have their limits. Hence, increases in production will have to come from technology, innovation and creativity. Harvard Professor Ricardo Hausmann showed that innovation was a decisive factor in a country’s level of development,⁴⁷ and as his study suggested, innovation comes from society’s collective knowhow.

The last industrial revolution occurred because AEs invented assembly line specialization in production. Working on different areas of specialization and combining such knowledge collectively creates something new and more productive. Because production and distribution occurs in networks, there is a cluster effect in collective knowledge, with increased productivity leading to higher growth and more jobs. Not every country can undertake innovation due to resource constraints, poverty and lack of funding.

Production, distribution and exchange require funding amidst uncertainty. Societies and economies do not naturally become endowed with collective knowledge. This requires years of training and experience. But society will not be able to use that knowledge if the institutions do not provide the correct conditions, including funding *at the right price*. For example, a product might require the knowledge from three sub-sectors such as machinery, chemicals and electronics but if one cluster is poorly developed, this creates a missing link and it will be more difficult to develop the final product. Indeed, finance is often the missing link to fund innovation, competition and change.

There are three main types of innovation namely, **institutions, processes and products**. Institutional innovation refers to the branching out of new institutions from one main large organization into hybrid or subsidiary/affiliate institutions with specific functions. An example is the evolution of the limited company in the 18th century, and today’s limited partnerships for venture capital and private equity. Sovereign wealth funds are also institutional innovations in order to get market returns on management of state assets. Included in institutional innovation is platform innovation, such as the FinTech platform of Alibaba that integrated logistics and distribution networks with the payments network.

Process innovation is actually a sub-category of institutional innovation. The purpose of process innovation is to use new technology or organizational methods in order to improve the process, save time and resources and reduce transaction costs. The introduction of ICT platforms using web-based processing for trading, clearing, settlement and even advertising, rather than using bricks and mortar branch networks is another example of process innovation. The internet of things continuously opens new frontiers for improving processes.⁴⁸

When there is institutional and process innovation, what follows naturally is product innovation. Products must continue to be improved upon to be relevant and to stay in the game. Product innovation is best done through market competition. However, innovation cannot evolve without a funding model. Just as global trade occurred because stock exchanges evolved around coffee houses to fund pirates and traders in distant lands, nations need to fund innovation and development by adapting to new channels, products and institutions.

For example, Islamic finance, which is equity-based finance, evolved through the funding of caravans across deserts. Since the losses from natural disasters, robbery and cheating in any caravan expedition are likely to be very high, it would not be possible to be funded by debt and had to be financed through equity with very high returns, commensurate with high risks. One could argue that in a world facing unknown risks, we should return to risk-sharing and equity-based finance to enable the system to be more resilient and adaptable to radical uncertainties.

6.5 Financing for Social Inclusion

World Bank research suggests that financial inclusion is important for development and poverty reduction⁴⁹. Having access to savings and automated payments for lowering transaction costs is important for alleviating poverty, and for SMEs and new entrepreneurs, improving access to credit is likely to have significant growth benefits.

Furthermore, new technologies enable the expansion of financial inclusion through innovations such as mobile payments, mobile banking, and standards that enable the poor to use financial services at lower costs and easier access. Specifically, the widespread adoption of

⁴⁷ Hausmann, Ricardo Cesar A. Hidalgo,, Sebastian Bustos, Michele Coscia, Sarah Chung, Juan Jimenez, Alexander Simoes & Muhammed A. Yildirim. 2011. “*The Atlas of Economic Complexity: Mapping Paths to Prosperity*.” The MIT Press.

⁴⁸ Chui, Michael, Markus Löffler, & Roger Roberts. 2010. “*The Internet of Things*.” McKinsey Global Institute.

⁴⁹ The World Bank. 2014. “*Global Financial Development Report 2014: Financial Inclusion*.” Washington DC: World Bank.

technology platforms, such as Alibaba in China, has enabled SMEs to obtain goods and services as well as customers that were previously impossible using bricks and mortar retail outlets. To enable this, regulators need to allow a level playing field between competing financial service providers and address data security and privacy considerations.

The most traditional way of pushing for social inclusion is through growth via public and private investment in infrastructure, which promotes social inclusion and justice by providing utilities and public services for the masses that reduces their transaction costs.

Experience has shown that long-term infrastructure should be funded by long-term funds, particularly from pension and insurance funds with long-term horizons. Because many EMEs have a young demographic profile, there has been insufficient attention paid to developing pension and insurance funds. In China, for example, pension and insurance funds account for less than 10 per cent of the size of the banking system. In contrast, Australian superannuation funds are growing rapidly to almost the same size as the banking system and their injection of capital into the banking system helped to avoid the shocks from the GFC. Priority should therefore be given to promote long-term pension and insurance funds, with removal of portfolio restrictions that hinder their capacity to achieve high returns from higher risk investments.

Furthermore, insufficient policy attention has been paid to promoting a level playing field for SMEs, which provide for most economies roughly 80 per cent of employment, the bulk of innovations and more than two-thirds of value added. Post-crisis, there is awareness that the current bank-dominated financial systems in EMEs and Europe did not supply sufficient equity capital and working capital to SMEs at reasonable costs.

As a result, SMEs tend to be highly leveraged and are considered high risks by banks, which also require collateral for loans. At the same time, unfettered free markets have also resulted in predatory behavior by financial institutions on innocent retail investors, savers and consumers through mis-selling, market manipulation, fraud and insider trading. Not all of these abuses can be solved through regulation or supervision. A better solution is consumer and investor education, including managerial education for SMEs, together with allowing more competition between different financial intermediaries.

In order to reduce the leverage of SMEs, there are five options:

- Remove tax bias against equity investments and dividends.
- Encourage banks to help restructure viable SMEs through debt-equity swaps and help them become more competitive.
- Create either Fund of Funds or Sovereign Wealth Funds that can take equity stake in SMEs, particularly high tech companies, but do this in conjunction with market entities such as regional or professional associations representing SMEs.
- Create “nursery” exchanges for PE and VC funds to trade unlisted equity in SMEs, so that SMEs learn that if they are successful, they will be able to access public equity in stages.
- Allow pension and insurance funds to take equity in SMEs as part of their alternative investments.

6.6 Financing for Sustainability

One of the most recent challenges for finance is the funding of environmental sustainability. The International Energy Agency (IEA 2014) in its Special Report on the World Energy Investment Outlook estimated that in order to keep the world on a 2°C scenario trajectory, annual investments in low carbon energy and energy efficiency need to double to reach almost US\$790 billion per annum by 2020 and to increase by nearly six times current levels to reach US\$2.3 trillion per annum by 2035. It is clear the financing needs are large and growing⁵⁰. Given these huge investments, most of which will be in the EMEs with growing energy demand, funding will be crucial. Investing in the children’s future will require the creation of special funds or allow pension, insurance and private funds to invest in environmental sustainability.

One of the most complicated issues is the rate of return estimated on such investments and the discount rate used. The recent exceptionally low interest rate environment did not result in more investments in long-term sustainability investments, with more funds allocated for short-term speculation instead. Hence, the role of the state may need to step in to “guide” investments in these areas of market failure. This is where policy-based banks and sovereign wealth funds may take the lead in EMEs to help market institutions to invest in these areas of perceived high risk.

The recent UNEP Inquiry into Sustainable Finance, published on October 8, 2015, concluded that financing for sustainable development can be delivered through action within the financial system, as well as the real economy; that policy innovations from developing and developed countries already demonstrate how the financial system can be better aligned with sustainable development; and that systematic national action can now be taken to shape a sustainable financial system, complemented by international cooperation.

Indeed, a number of AEs and EME central banks are already implementing experimental forms of support for green finance, including inducing policy-based lending by banks. I have elsewhere argued that central banks should also consider using their balance sheets to finance climate change⁵¹. The logic is that EME central banks hold the “equity of last resort”, which can be used to catalyze or stimulate

⁵⁰ UNEP. 2014. “[Financial Institutions Taking Action on Climate Change.](#)”

⁵¹ Sheng, Andrew. 2015. “[Central Banks Can and Should Do Their Part in Funding Sustainability.](#)” Centre for International Governance Innovation (CIGI), Fixing Climate Governance Series, Paper No. 1– June 2015.

climate change projects where there is a market failure to finance activities that affect human survival.

6.7 Finance and Governance

Breaking out of the **Middle-income Trap (MIT) for many EMEs** to high-income status will require a fundamental change from simple banking to major innovations in asset management and capital market development, including sound financial infrastructure, in order to allocate more risk funding to support the real sector transformations necessary to break out of the MIT.

Financial institutions are very important agents of financial discipline in the system, because they have the expertise to vet the lending proposals and exercise both credit and compliance discipline on their clients. EME financial institutions still have the trust of their customers because they did not engage in such AE-related large scale self-interested proprietary trading and conflicts of interest against their customers. EME policymakers should therefore encourage their financial institutions to innovate their business models to risk-share with their clients and work together towards achieving sustainable and profitable growth. An example of an alternative finance model is Islamic finance, which is equity-based and forbids usury. The foundations of Islamic finance is risk-sharing with their clients⁵², thus requiring the Islamic finance institutions to be truly universal banks that take equity stakes in their customers' projects.

6.8 Role of the State in Finance

At the heart of the debate on finance is the role of the state in finance. Conventional free market finance tends to push for maximum market forces and minimal government. However, even the World Bank has recognized that "the state tends to play a major role in the modern financial sector, as promoter, owner, regulator, and overseer", recognizing that there are many areas of "market imperfections⁵³", such as the costs and uncertainties associated with (a) acquiring and processing information, (b) writing and enforcing contracts, and (c) conducting transactions.

In most emerging markets, the state has led the way to build financial institutions, markets and standards, with central banks and policy-banks leading the way. However, the failures of policy-based lending in the 1980s and experience with state-owned systems led to a re-think on state-intervention. On the other hand, the losses from unfettered finance that led to the GFC also pushed thinking the other way. Basically, whether the state succeeds in fostering a strong and stable finance sector that serves the real sector with financial inclusion depends ultimately on each country's political system's ability to promote the public good and prevent institutional capture.

The World Bank has also conceded that "one size does not fit all when it comes to policy intervention⁵⁴". In less developed economies, there is more scope for state intervention in building financial institutions where none existed, particularly in building infrastructure, such as clearing houses and credit bureaus. For middle-income EMEs, the need for state intervention changes, because current models of finance do not promote financial inclusion and therefore state intervention is necessary to deal with the need to promote access to finance for SMEs to create jobs, innovation and growth. Indeed, it can be argued that the biggest gap in financial development strategy was the bias towards debt and insufficient attention to the need for capital by SMEs to cushion themselves against the higher risks of economic and social transformations.

6.9 Globalization, International Monetary System and EME Finance

Last but not least, if EME financial assets become significantly larger than AE financial assets, the game would change dramatically in the international monetary system (IMS). The game has already changed because the size of resources available with the Bretton Woods institutions (World Bank and IMF) has become smaller than the largest of EME policy-based bank, such as the China Development Bank. EMEs already can access global financial markets and are less willing to subject themselves to IMF and AEconditionality. At the same time, as EME sovereign wealth funds grow in size, in their search for yield and willingness to accept risk, many EMEs are now able to access long-term equity funding from new sources. For example, in 2010, SWF deal flows amounted to US\$20 billion.

Furthermore, central bank reserves, amounting to US\$11 trillion in size, of which three-quarters belong to EME economies, are beginning to diversify their investments in EMEs, and away from reserve currencies⁵⁵.

The issue of IMS reform is basically a political narrative. The advanced economies, which currently dominate the voting power in the leading multilateral agencies, are unwilling to shed their power, even though the economic and financial balance is changing in the favor of EMEs. There is unlikely to be a top-down reform change due to disagreements at the level of majority shareholders. What is more likely to happen is that more EME currencies will begin to be used as reserve currencies for payments and transactions purposes. Which currencies will perform this role is at this point unclear, although a leading contender would be the RMB.

7. Conclusion

The paper argues that the current paradigm by which we looked at finance pre-crisis is flawed, and we need to examine the role of finance in new, complex, inter-active and systemic perspectives. Although conventional models of EME GDP growth and financial

⁵² See Bacha, Mirakhor and Askari (2015).

⁵³ World Bank. 2012. "[Global Financial Development Report 2013: Rethinking the Role of the State in Finance.](#)" Washington, DC: World Bank. pp. 2-3.

⁵⁴ Op. cit, pp 26.

⁵⁵ IMF. 2014. "[Global Financial Stability Report, April 2014: Moving from Liquidity- to Growth-Driven Markets.](#)" Washington, DC: IMF. Box 2.3, pp 77.

deepening appear to be rosy, with projections of EMEs overtaking AEs in terms of size of GDP and financial assets by 2050, it should be clear that there is an optimism-bias in such linear models.

The evolution of finance to support the real sector through the funding of long-term investments, growth with social inclusion and environmental sustainability will be complex, non-linear and to a large extent, subject to grave uncertainty.

At the national level, EMEs have the opportunity to radically restructure their financial systems to fit their national goals, which may be different for different countries. There is at least more consensus that there is no one size-fits all model for policy intervention in financial institutions and markets because of different national characteristics and institutional history.

Current risks from geo-political threats, demographics, technology and climate change are huge, but there are also opportunities for EMEs to use these challenges to transform finance in radical ways to serve their national objectives. Specifically, the EMEs should use the equity market to rebalance the current over-dependence on debt as the principal driver of finance. Equity markets increase system resilience and promote risk-sharing, thus pushing for a long-term “ownership” view of development, rather than the current fragile, concentrated and short-term perspective of the debt-driven model.

Other measures include the opportunity to address the current threats of shadow banking/TBTF bank fragility to reduce dependence on banking, which suffers from a structural maturity mismatch. This can be done through the restructuring of the real sector borrowers, using debt-equity swaps and also promoting the growth of long-term funds and institutional investors, such as pension, insurance and private equity that can inject fresh equity into overleveraged enterprises.

Such restructuring is urgently needed because the current debt-driven model leads to an overleveraged banking system dependent on an overleveraged real sector. Further complex regulation of the banking system is not the answer to deal with TBTF and undercapitalized banking systems. The restoration and restructuring of the real sector into healthy and sustainable growth will give the banks time to adjust.

EMEs will also have the opportunity to regulate their financial systems based on principles-based regulation, rather than increasingly complex laws, requiring more and more complex regulation that invites more and more regulatory arbitrage and “gaming of the system”. Such gaming is neither socially productive nor helpful for financial stability and social equity.

This paper takes the view that the building blocks of strong financial systems need to start at the national and local levels, so that finance is founded on strong ethics and values, safeguarded by vigilant supervision along clear principles, and fostered through sound competition.

It is through the competition from bottom-up that will generate a more healthy, diverse and economically, socially and ecologically more sustainable global financial system.

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