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Development Finance in the 21st Century: *Tribute to Ronald McKinnon and Ajit Singh*

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Section 1: Introduction

The purpose of this lecture is to honor two former Tun Ismail Mohamed Ali Chair (TIAC) professors, the late Stanford Professor Ronald McKinnon and Cambridge Professor Ajit Singh, who both passed away this year, a great loss to all development economists. Bank Negara Malaysia endowed the TIAC professorship at the University of Malaya to advance thinking and academic interest in Malaysia on monetary, finance and development economics. It was very befitting that Ron McKinnon served as the first Chair, Professor Yilmaz Akyuz, former Chief Economist of UNCTAD served as the Second Chair, I was honored to serve as the Third Chair, Professor Takatoshi Ito served as the Fourth Chair and was succeeded by Ajit Singh.

Many of you would have heard of the legendary Tun Ismail Mohd Ali, one of the truly great institution builders in Malaysia, who was not only the second (and first Malaysian) Governor of Bank Negara Malaysia, but also the founding Chairman of Permodalan Nasional Berhad. He was one of the select few who was a student of both Keynes at Cambridge and Hayek at the London School of Economics, who helped build the institutional foundations of the newly independent Malaya and then Malaysia. I still have in my prized possession a signed copy by Tun Ismail Mohd Ali, in his inimitable Royal Blue Ink handwriting, of the collected speeches of Bank Negara, 1959-88, which reminded me how much I learnt from him and the pioneers of Bank Negara, many of whom I had the privilege of serving. They saw national development as a personal cause and social duty.

In the 1950s, development for former colonies was seen as a process of modernization, industrialization and catching up with the advanced countries. As Malaysia stands at the threshold of breaking out of the Middle Income Trap to become a high-income nation by 2020, there is much to reflect on what has changed since 1957 and what the term development truly means today.

[1] I am grateful to Ms. Jillian Ng and Mr. Ng Chow Soon for helpful research work in the preparation of this Lecture, and Associate Professor Dr. Kwek Kian Teng of FEA for comments. All opinions, errors and omissions are those of the author.

Looking back, Tun Ismail Mohd Ali never forgot that in addition to the traditional roles of central banks in maintaining price, monetary and financial stability to support and foster the development process, central banks in developing countries had the unenviable task of creating new monetary and financial markets and institutions, sometimes almost from scratch. In this sense, even though development economics has evolved considerably from the simplistic growth models of the 1950s, development has always been about people, their values and behavior.

At this point in time, it is worthwhile repeating what Tun Ismail said about the role of the central bank within the community at large. "To carry out this role, a central bank has to be technically competent. It must also have integrity and sound judgment. *It is when these qualities are fulfilled that a central bank can win the respect and confidence of the government and the general public* and, in fact, will be regularly called upon to advise the government. Such a position does not come by easily. It has to be earned. But with it, a central bank would have the strongest guarantee for its independence and effectiveness, far stronger than any formal expression of central banking authority[2]."

We have come a long way in understanding the role of finance since the 2007/2009 global financial crisis, particularly in the appreciation that we are dealing not with partial (closed) subsystems, but the complex interaction between national economies as subsystems within an open, dynamic global system. Finance cannot be understood independently of the real sector, and financial systems and institutions cannot be understood independently of how they interact with the real sector and other financial systems. This means that we cannot view economic and financial systems in silos, mechanically or in simplistic linear logic.

In this regard, the main leap-forward in recent economic thinking is that we need to understand the subtleties and inter-relationships of development within what is today known as complexity theory[3]. In the words of the brilliant social scientist, Herbert Simon[4], a complex system is "one made up of a large number of parts that interact in a non-simple way" – in which the whole system behaves very differently than the sum of its parts.

I therefore want to fit the work of McKinnon and Singh within the architecture of the complex system of development. We need to see how different economists perceive how the various pieces of the policy jigsaw puzzle fit together, from the micro-economics of funding of capital investments, the impact of taxes and regulations on behavior, the macro-financial policy architecture on capital flows, the constraints and limitations of the international monetary and regulatory architecture and the blindspots of missing the connectivity, feedbacks, discontinuities and reflexivity[5]of different parts interacting with each other within a context of radical uncertainty.

[2] Tun Ismail Mohd Ali, Relations with Treasuries etc, BNM 20th Anniversary publication
[3] Arthur, Brian. 2014. "*Complexity and the Economy*." London: Oxford University Press.
[4] Simon, Herbert A. 1962. "*The Architecture of Complexity*." Carnegie Institute of Technology. Proceedings of the American Philosophical Society, *106*(6), pp. 467-482.
[5] Soros, George. 2013. "Fallibility, Reflexivity, and the Human Uncertainty Principle." *Journal of Economic Methodology*, *20*(4), pp. 309-329.

This lecture is organized as follows. Section 2 surveys changes in thinking about development economics and the role of finance. The seminal work of Ron McKinnon is then put within the context of that change.

Section 3 examines how the international monetary system has changed with globalization and the importance of the dollar standard as an anchor of monetary stability. In this context, McKinnon has always argued that a developing country is better served by linking its currency to the dollar.

Section 4 examines the theory of the firm and the role of capital markets in funding development, which Ajit Singh made his hallmark contribution. This section examines the emergence of Islamic finance and its role in risk-sharing in a world of radical uncertainty.

Section 5 evaluates the implications of recent development thinking on taking Malaysia to the next level of advanced country status. As discussed in the previous lecture to the FEA, on New Economic Thinking, development will have to embrace a multidisciplinary approach to explain economic behavior under conditions of dynamic uncertainty, as well as limitations in natural resources and rising social inequality.

Section 6 concludes.

Section 2: Development Economics and New Economic Thinking

Going back to my old textbooks on economic development, it became clear that economic development was seen in linear terms: development from a primary producer, to secondary production (industrial manufacturing) to tertiary services. Walt Rostow[6] (1959) discussed the stages of development, as if an economy was like a plane taking off. Nobel Laureate William Arthur Lewis[7] (1955) looked at a "dual economy", how former colonies needed to move out of rural agriculture towards urban industrialization. Under the influence of Raul Prebisch[8] , Latin America went the import-substitution route of industrialization and failed miserably. Others, like Haberler[9] (1959) and Bauer[10] (1957) pushed for trade as the engine of growth, rather than the reliance on aid.

When the World Bank and the multilateral development agencies got into the act, the debate on development became more theoretical. On the one hand, the growth models pushed for increases in inputs of land, labor and capital as development strategies, without fully appreciating the role and impact of knowledge and innovation other than as "errors or omissions" or the X-factor. Once development strategies became the fashion, the debate swung from planning to markets and from balanced to imbalanced growth.

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[6] Rostow, W.W. 1959. "*The Stages of Economic Growth*." *The Economic History Review*, *12*(1), pp. 1-3.
[7] Lewis, William Arthur. 1955. "*The Theory of Economic Growth*." London: Allen and Unwin.
[8] Prebisch, Raul. 1984. "Five Stages in My Thinking on Development." In Gerald Meier & Dudley Seers (eds.), *Pioneers in Development*. World Bank. London: Oxford University Press, pp 175-191.
[9] Haberler, Gottfried. 1959. "*International Trade and Economic Development*." Cairo: National Bank of Egypt.
[10] Bauer, Peter T. & Brian S. Yamey. 1957. "*The Economics of Under-developed Countries*." U.S.A.: The University of Chicago Press.

Those who believed in "tidy" models and "optimalization" strategies argued for the need to "balance", filling in gaps, providing public goods for all and ideals about social equality and catch-up for all. Paul Streeten[11] (1963) and Albert Hirschman (1984) were two dissenters who argued that economic development is by nature imbalanced. In the prescient words of the late Hirschman, "Orthodox policy prescriptions for the disrupted postwar economies of Western Europe – stop the inflation and get the exchange rate right – were often politically naïve, socially explosive, and economically counter-productive from any longer-run point of view."[12]

This sounded familiar, a complaint that current mainstream economic thinking was neither able to predict, nor explain and help formulate policies for unfolding political realities. The reason for this was mainly due to the partial (ceteris paribus) and mechanical approach to economics, failing to take into account major mega-trends that are changing the context in which developing countries operate. These would include the issues of the sharp rise in population, aging and impact on the labor supply, urbanization and the clustering of knowledge as well as energy consumption and pollution, social inequities, climate change, technological disruptions and territorial conflicts and complex policy responses, such as major financial regulatory reforms.

Simplistic, linear and mechanical models cannot cope with complex, non-linear inter-relationships, feedbacks and discontinuities. Because policy is implemented by departmental silos, each part of a bureaucracy, at the local, national or global level, may have different interests and incentives from the policymakers, so that policies never get implemented with the intended outcomes. Furthermore, with different players, the conflicts in policies would also result in unintended gaps, overlaps and spillovers. For this reason, development economics has moved to address how policymakers adapt with radical uncertainty. There is greater scepticism that a "one-size-fits-all" development model exists, with a preference for different experimental approaches to adapt to change.

According to Harvard Professor Dani Rodrik (2003), development economics needs experimentation. In the most basic definition of economic growth, at least two things are required, which are foreign technology and good institutions.[13] In development economics, "learning what one is good at producing" is a key challenge in the process of transformation into a modern economy. What is required is the recognition of the contextual nature of policy solutions. The relative ignorance calls for an approach that is explicitly experimental, and which is carried out using the tools of diagnostics and evaluation.[14] The old dichotomies between the states and the markets play little role in this worldview and pragmatism reigns. The proof of the pudding is in the eating – if something works, it is worth doing. China's experience illustrates that the experimental approach to policy reform need not remain limited in scope and can extend into national policies.[15] Asia has changed its growth models from the best

[11] Streeten, Paul. 1963. "*Balanced versus Unbalanced Growth.*" The Economic Weekly, April 20, pp. 669-71.
[12] Hirschman, Albert O. 1984. "A Dissenter's Confession: The Strategy of Economic Development Revisited." In Gerald Meier & Dudley Seers (eds.), *Pioneers in Development*. World Bank. London: Oxford University Press.
[13] Rodrik, Dani & Ricardo Hausmann. 2003. "*Economic Development as Self-discovery*."
[14] Rodrik, Dani. 2008. "*The New Development Economics: We Shall Experiment, but How Shall We Learn?*"
[15] Dani Rodrik. 2008. Op. cit.

policies, the best ideals, what is good and what is bad, to a more practical standard, which is "what works".

In essence, development economics has moved away from an "optimal solution" towards a range of policy trade-offs and choices, which may lead to a range of outcomes. Given that the system is changing all the time, the dimensions of reform will have to cover the mindset changes (new information, new concepts), tools, processes, standards, institutional structures and feedback mechanisms.

Basically, the development process is not just a purely economic process. It is a social, ecological, and ethical process, a multidimensional and systemic process.

How does Ron McKinnon's work fit within this new context? Ron began by using the framework of his mentors, Gurley and Shaw[16], about financial deepening. Gurley and Shaw were pioneers in studying the role of money in economic development and the role of financial institutions, from the simplest (banks) to the more complex capital market institutions. Financial development is closely correlated with per capita income. As income and saving rises, the degree of financial sophistication increases.

Raymond Goldsmith, working with financial balance sheets, was amongst the first to identify the key processes which are involved in financial development and the conditions under which financial systems will systematically "deepen" over time.[17] Goldsmith showed that as income rises and economic activity expands, financial intermediation leads to "layering" of financial assets and liabilities. The intermediation is due to the expansion of traditional banking services and rising role of non-bank financial intermediaries (NBFIs).

Gurley and Shaw highlighted the growing importance of NBFIs as their activities posed a serious concern for monetary management. [18] There were two observations which arose from this trend. First, monetary management would not be undermined if regulatory authorities had exerted control over the financial system through the financial markets. Second, the growing role of NBFIs was stimulated by the opportunities for intermediation created by monetary policy measures that had placed specific restrictions on the banks (regulatory arbitrage). Goldsmith and Shaw's works stressed the relevance for financial development or financial deepening of rising income and wealth.[19]

McKinnon's first major work, *Money and Capital in Economic Development*[20] (1973), started with his study of the rise of South Korea in the 1960s. The remarkable industrialization with a high investment and high inflation outcome defied the conventional wisdom of low inflation and stable money as the basis of sound monetary theory. McKinnon therefore questioned the orthodoxy, but also realized that

[16] Gurley, John G. & Edward S. Shaw. 1960. "*Money in a Theory of Finance*." Washington DC, U.S.A.: Brookings Institution.

[17] McPherson, Malcolm F. & Tzvetana Rakovski. 1999. "*Financial Deepening and Investment in Africa: Evidence from Botswana and Mauritius*." Harvard Institute for International Development Discussion Paper 727.

[18] McPherson. 1999. Op. cit.

[19] McPherson. 1999. Op. cit.

[20] McKinnon, Ronald. 1973. "*Money and Capital in Economic Development*." Washington DC, U.S.A.: Brookings Institution Press.

development would require orthodox fiscal prudence and removal of financial repression (the tax on savings through inflation). Monetary policies also could not be divorced from the trade and balance of payments accounts. He then began to look at the evidence of economic development in countries like postwar Germany, Japan, Taiwan and Indonesia.

From the evidence, he concluded that official controls over private savings, whilst helping to finance long-term investments in the short-term, may have long-term consequences. Specifically, capital controls, use of captive markets (pension funds) to fund government borrowing, and low interest rates led to economic under-development. McKinnon noted: "The economy is 'fragmented' in the sense that firms and households are so isolated that they face different effective prices for land, labor, capital and produced commodities and do not have access to the same technologies." Therefore, "...unification of the capital market, which sharply increases rates of return to domestic savers by widening exploitable investment opportunities, is essential for eliminating other forms of fragmentation[21]."

McKinnon's second book, *The Order of Economic Liberalization: Financial Control in the Transition to a Market Economy* (1993), was an influential textbook on how to get the sequencing of financial and trade reform right. Even today, China's efforts to open up the capital account, allowing market forces to determine interest and exchange rates, all owe an intellectual debt to McKinnon.

A recent study by the IMF showed that financial deepening is correlated to growth, but beyond a certain point, financial complexity could affect economic stability[22]. Whilst the 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, the outstanding private credit accounted for close to 50 per cent of GDP while the stock markets had averaged about 40 per cent of GDP since 2000. By contrast, the advanced markets' private credit averaged more than 130 per cent of GDP and their stock market capitalization was about 70 per cent of GDP.

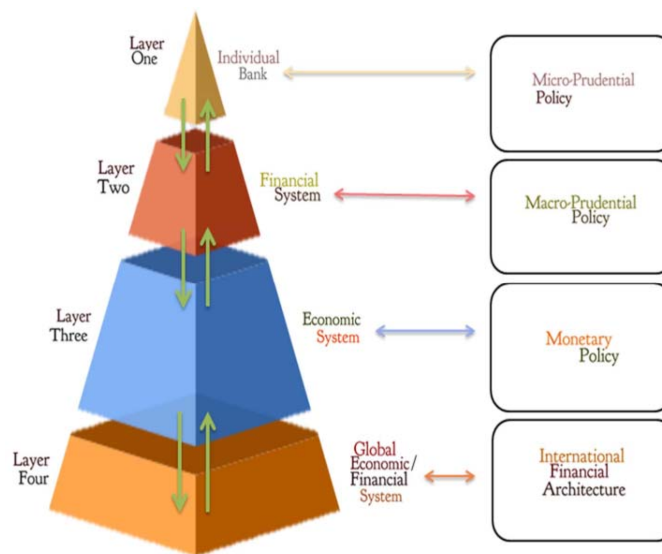
The IMF (Sahay) study found that financial development generally increases a country's resilience and boosts economic growth, but tradeoffs between growth and stability can emerge at high levels of financial development, where financialization can harm rather than benefit. Building on the work of Ross 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 no doubt be managed partially with strong regulatory and supervisory practices. But 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

[21] McKinnon. 1973. p. 9.
[22] Sahay, Ratna, Martin Čihák, Papa N'Diaye, Adolfo Barajas, Ran Bi, Diana Ayala, Yuan Gao, Annette Kyobe, Lam Nguyen, Christian Saborowski, Katsiaryna Svirydzenka & Seyed Reza Yousefi. 2015, May. "*Rethinking Financial Deepening: Stability and Growth in Emerging Markets.*" IMF Staff Discussion Note, SDN/15/08.

institutions will tend to decline and those from markets will tend to increase.

Compare this to how far we have come with Bank of England Chief Economist Andrew Haldane's four-layer perspective of the Macro-Financial System of Systems (Figure 1), in which there are micro-prudential, macro-prudential and monetary policies all impacting on the international financial architecture.

Figure 1: Macro-Financial System of Systems



Source: Haldane, 2015. "*On Microscopes and Telescopes*."[23]

Section 3: The International Monetary System (IMS)

Haldane's pyramid suggests that all institutions have hierarchy, and complex systems are networks that exchange information, resources and energy across links and nodes, with an architecture that determines its efficiency, stability, resilience and adaptability to change.

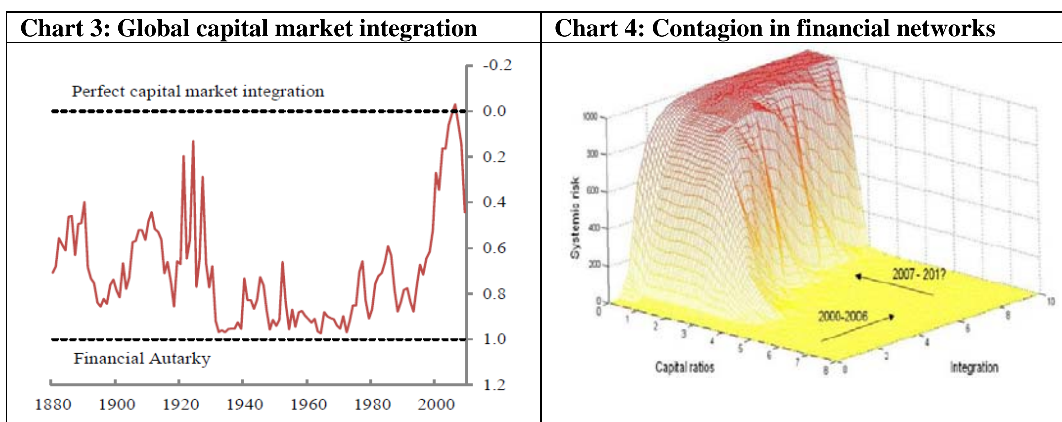
I believe that Haldane's excellent review of global finance as a system[24] is a good place to start on why McKinnon's work on the dollar standard is so critical to global stability. In historical perspective, the relative size of global trade and finance was broadly equal around 1980, but by 2010, global finance was nine times larger than global trade, and financial assets were 3.8 times the size of global GDP.

The current IMS trades faster, has huge scale, but the multilateral resources to deal with crises are now inadequate, requiring central bank swaps to be an emergency backstop:

[23] Haldane, Andrew. 2015. "On Microscopes and Telescopes." Bank of England. Speech given at the Lorentz centre workshop on socio-economic complexity, Leiden, 27 March 2015.
[24] Haldane, Andrew. 2014. "Managing Global Finance as a System." Bank of England. Speech given at the Maxwell Fry Annual Global Finance Lecture, Birmingham University, 29 October 2014.

- First, FX trading markets averaged US$5.3 trillion per day in April 2013, up from US$3.3 trillion in April 2007. In 2012, we had global merchandise trade (X+M) of US$30 trillion (equivalent to 6 days of FX trading) and US$6.6 trillion G4 monetary base.
- Second, the refusal of the U.S. Congress to approve G-20 agreed IMF quota reforms restrained the capital available to the IMF and multilateral development banks (World Bank, ADB, etc.) to deal with much-needed global funding for crisis management and infrastructure investment.
- Third, the Fed's US$333 billion dollar swap lines were to only five central banks: UK, ECB, Japan, Canada and Switzerland.
- Fourth, the PBOC had US$468 billion in bilateral currency swaps with more than 30 central banks, focusing on trade facilitation.[25]
- Fifth, non-G7 institutions, such as the China Development Bank, Asian Infrastructure Investment Bank (AIIB), New (BRICS) Development Bank, etc may have balance sheet capacity larger than the multilateral development banks, e.g. IMF plus World Bank together.

Figure 2: Global Capital Market Integration and Contagion



Source: Haldane. 2014. "*Managing Global Finance as a System*."[26]

What is remarkable about the globalization of finance is the high degree of global capital market integration (Figure 2). Taking a 140 year perspective, between 1880 to around 1930s, capital market integration was roughly half, between perfect integration (one) to non-integration (zero). What is scary is that from the 1980s onwards, because of globalization and financial liberalization, integration and contagion became almost perfect (one) up to the point of crisis in 2007. Thereafter, the introduction of new regulatory rules and macro-prudential tools has slowed the integration somewhat (Charts 3 and 4) in Figure 2.

What have all these to do with the dollar standard? The reality is that with the U.S. emerging as the dominant economy and military power after the Second World War, the US dollar has become the dominant reserve currency, overtaking sterling. Despite

[25] Li, Cindy. 2015, October. "*Banking on China through Currency Swap Agreements*." Federal Reserve Bank of San Francisco.
[26] Haldane, Andrew. 2014. "*Managing Global Finance as a System*." Bank of England. Speech given at the Maxwell Fry Annual Global Finance Lecture, Birmingham University, 29 October 2014.

delinking with gold in 1971, the dollar has retained its dominance, and currently accounts for 60 per cent of world payments transactions, with the euro accounting for roughly 25 per cent and the balance being shared with the Swiss franc, yen and sterling of roughly 4 per cent each.

The U.S. still accounts for 23 per cent of world GDP and 12 per cent of merchandize trade, whereas 60 per cent of world output comes from a de facto dollar zone, even though U.S. corporate share of global corporate investment has fallen from 39 per cent in 1999 to 24 per cent today[27]. Nevertheless, American fund managers still run 55 per cent of the world's assets under management, up from 44 per cent a decade ago.

The dollar standard had one fundamental problem, which is commonly called the Triffin Dilemma. This stated that the reserve currency country would have to provide more money supply to meet the demand for reserve currency by the rest of the world, which required the U.S. to lose monetary control and run higher and higher trade deficits with the rest of the world. The unfortunate political consequence is that the U.S. tries to manage its current account deficit by asking the surplus countries to adjust, such as putting pressure on Japan and China to revalue their currencies.

McKinnon (2002) identified that foreign monetary authorities may better anchor domestic price levels by choosing to peg (officially or unofficially) to the dollar [28]. Two conditions would create a stable global system. First, the U.S. price level is expected to remain stable. Second, most countries prefer to remain on the same international standard, namely, fix their exchange rates to the dollar. He noted that between 1968 to 1973, when there was a shift to floating exchange rates, there was a subsequent period of high and variable price inflation, with high and volatile nominal interest rates which eroded the dollar's usefulness as a nominal anchor. Without a common anchor for domestic price levels and exchange rates, productivity in industrial world and its periphery (except for the East Asian tigers) slowed dramatically after 1973 through to the early 1990s.

Furthermore, from 1990-2013, the RMB began to join the informal dollar standard that prevailed in East Asia and helped to reinforce Chinese trade and the prominence of the RMB.[29]

In his important 2014 book, Professor McKinnon explained some uncomfortable truths with regard to what he called "The Unloved Dollar Standard: From Bretton Woods to the Rise of China", Oxford University Press. The dollar standard is unloved because of what one U.S. Treasury Secretary told his foreign critics of U.S. exchange rate policy – "our dollar, your problem".

The reason for the current account surplus with the U.S. was essentially a structural outcome of the Japanese-led construction of the global manufacturing supply chain, covering most of East Asia and with final assembly in China. Professor McKinnon

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[27] The Economist. 2015. "*The Never-ending Story*." *The Chronicles of Debt: The Economist Magazine*, *November 14th-20th 2015 issue*, p. 13.

[28] McKinnon, Ronald. 2002. "*The World Dollar Standard and the East Asian Exchange Rate Dilemma*." TIAC Public Lecture.

[29] McKinnon, Ronald & Gunther Schnabl. 2014. "*China's Exchange Rate and Financial Repression: The Conflicted Emergence of the Renminbi as an International Currency*." CESifo Working Paper Series 4649.

argued that "revaluing the other currency" would not reduce the U.S. trade deficit, since the Japanese experience was that higher exchange rates did not reduce its current account surplus with the U.S., resulting instead in a huge bubble and two lost decades of growth.

McKinnon thinks that three macroeconomic fallacies were responsible for the U.S. insularity, despite the fact that globalization has clearly benefited the U.S. – the Phillips Curve Fallacy; the Efficient Market Fallacy and the Exchange Rate and Trade Balance Fallacy. In the 1960s, the U.S. belief in the Phillips Curve – that higher inflation generated lower unemployment – created higher inflation, but also larger current account deficits. So the U.S. pushed the Europeans and the Japanese to appreciate their currencies and given the deadlock, Nixon broke the dollar's link with gold convertibility in 1971.

In the Greenspan era (1987-2008), the strong belief in the Efficient Market thesis caused the big push for global foreign exchange liberalization, flexible exchange rates and open capital accounts. The drive was pushed via the Washington Consensus, until the disruptive capital flows resulted in the Asian Financial Crisis, causing further capital flows back to the U.S. and widening the current account deficit. Thus began the China bashing in the 21st century in order to push for appreciation of the RMB in order to reduce the U.S. trade deficit.

McKinnon considers the third fallacy of Exchange Rate and the Trade Balance as the most pernicious conceptual barrier to a more stable global financial system. Between 2005 to 2007, when the RMB appreciated, the Sino-US trade surplus actually doubled. Continued appreciation of the RMB could cause China to follow Japan's steps into deflation and even a zero-interest rate liquidity trap. McKinnon therefore felt that the U.S. should recognize that the dollar standard is actually a global standard, with many privileges and responsibilities.

The logic of the McKinnon thesis is irrefutable, especially in the light of the Quantitative Easing (QE) experience. Massive monetary creation to alleviate the crisis did not create inflation, but whilst it initially caused a short-term depreciation, problems in the Emerging Markets, especially the slowdown in China, also caused the dollar to appreciate once again. The logic is that whoever maintains the dominant currency standard must maintain strong self-discipline, because the benchmark standard cannot be built on shifting sands. If the dollar is weak because the U.S. economy is weak, then all other currencies will be volatile, because they float around an unsteady standard.

Indeed, for small open economies that maintain large trade links with the U.S., having dollar pegs require them to keep their economies flexible and they must maintain fiscal and monetary discipline. This is the experience of the Hong Kong dollar peg.

Flexible exchange rates have not resulted in countries adjusting their overall competitiveness. What happened instead is that flexible exchange rates often allow governments to run "soft budget constraints" and try to depreciate their way out of the lack of competitiveness. It is the refusal to make structural reforms that cause overall competitiveness to decline and these economies then go into a vicious circle of over-reliance on the exchange rate to keep the economy afloat. This is not sustainable, since if everyone tries to devalue their way out of trouble, rather than making structural adjustments, then the world will enter into a collective deflation.

How does the international monetary system (the architecture) tie up with the micro issues of finance?

The answer lies in the fact that mainstream finance and monetary theory has over-emphasized the importance of debt and under-emphasized the importance of capital or equity. Governments have always sought control over banking systems and bond markets because they are easy "captive markets" where the government can fund itself through either a financial repression tax (retail deposit rates lower than inflation) or through mandatory requirements for pension, insurance and asset funds to hold government securities. By and large, there is also a tax bias for debt and against equity. Interest on debt is tax deductible, as are loan losses, whereas dividend income on equity is taxed at source and often subject to double taxation, and capital losses on equity are not tax deductible.

However, the mental block towards equity is the famous Modigliani-Miller Theorem [30] on capital structure, which basically says that if we exclude taxes, bankruptcy costs, agency costs and information asymmetry, then in an efficient market, the value of a firm is the same whether it is financed by debt or equity.

However, since debt is cheaper than equity, the value of a company rises with leverage (debt to equity ratio), which reinforces the value of such leverage to existing shareholders, because they maintain control whilst increasing debt, whereas they may have to dilute ownership if they resort to equity funding.

If you add to this potent mixture the fact that governments like debt, corporate owners prefer debt and borrowers like cheap funding, it is not surprising that what we have globally is an explosion in debt, making the system systemically fragile, highly concentrated and unequal.

According to the McKinsey Global Institute, global debt has risen to 286 per cent of global GDP.[31] The size of global debt had increased by US$57 trillion since 2007, outpacing world GDP growth.[32] The OECD countries' sovereign debt has already risen above 100 per cent of GDP. The U.S. went into crisis in 2007 due to a sub-prime mortgage crisis that exposed the overleveraging of the financial system. In 2009, the default in Greek debt set off the European sovereign debt crisis. Today, the emerging market debt has risen from 150 per cent of GDP in 2009 to 195 per cent, with corporate debt rising from less than 50 per cent of GDP in 2008 to almost 75 per cent of GDP. China accounted for the bulk of debt increase, with the debt-to-GDP ratio rising by 50 percentage points in the last four years alone[33].

The tragedy of the debt crisis is that it can only be sustained by lower and lower interest rates, with the burden of losses shifted from the borrower to the lender, and from the debtors to the savers, especially the poor.

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[30] Modigliani, Franco & Merton H. Miller. 1958. "*The Cost of Capital, Corporate Finance and the Theory of Investment*." The American Economic Review, *48*(3), pp. 261-297.
[31] McKinsey Global Institute estimates.
[32] McKinsey Global Institute. 2015. "Debt and (not much) Deleveraging."
[33] The Economist. 2015. "*The Never-ending Story*." *The Chronicles of Debt: The Economist Magazine, November 14th-20th 2015 issue*, p. 13.

Financial repression is one of the main causes of inequality. 83 per cent of the world's equity market capitalization is supported by the zero interest rate policy (ZIRP).[34] Fifty per cent of world government bonds yield 1 per cent or less. In 2014, government bond yields fell to an all-time low (notably in Japan, Germany, France, Spain, Italy, Ireland, Portugal, Sweden, Switzerland, Korea, Czech Republic, Hungary and Poland).

The latest world wealth report suggested that 8.1 per cent of the population own 84.6 per cent of global wealth.[35] An ECB study (2015) of the relationship between financial reforms and income inequality in 29 countries (1975-2005) showed that financial reforms do not stabilize income inequalities, with the exception of reforms on banking supervision. Procyclicality in credit flows suggests that during downturns or financial crises, those on low incomes may be denied access to funds. A redistributive and progressive fiscal system may bolster and complement economy-wide insurance mechanisms.[36]

At the heart of the debt crisis is the fact that with a dollar standard, the U.S. is the world's largest beneficiary of low interest rates, with the ability to devalue its debt either through inflation or negative real interest rates.

Indeed, once the rest of the world caught up in manufacturing skills and in efficient production of energy, the U.S. compensated for its trade deficit by earning higher than normal rates through investment banking. In other words, whilst surplus countries (mostly EMEs) earn low interest rates by placing their foreign exchange assets in US Treasuries, Wall Street earns high returns through the carry trade (borrowing cheaply in dollars) and investing in EMEs and other countries where the equity returns are higher. As the BIS explained, the U.S. has a positive net equity balance and a negative net external debt balance. There is a net income surplus because the income yield on equity has been higher than the net income costs on debt. Secondly, by acting as the world's investment banker, the U.S. earns a persistently higher income yield on its foreign direct investments abroad, than the income that foreigners are earning from their FDI in the U.S.[37].

We are in a Central Bank policy trap. There is no hard budget constraint, as politicians always prefer soft options such as QE and ZIRP. Fiscal action was already trapped by the political unwillingness to take unpopular tough action or structural reforms. Central bank intervention is a "soft option", but cannot address structural issues, making the system more dependent on soft money and low interest rates. By expanding their balance sheets and willingness to intervene, without good theory and evidence that it works, central banks have become part of the structural "malaise" of liquidity trap with low growth.

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[34] BAML. 2015. "*A Transforming World: Year Ahead 2015 – 7 Transforming World themes for 2015*."
[35] Credit Suisse. 2015, October. "*Global Wealth Report 2015*."
[36] Christopoulos & McAdam. 2015. "*Do Financial Reforms Help Stabilize Inequality*?" ECB Working Paper Series.
[37] Heath, Alexandra. 2007. "*What Explains the US Net Income Balance*?" BIS Working Papers 223, Bank for International Settlements, Basel, Switzerland.

Global central bank assets, including FX reserves, totaling US$22.6 trillion[38] are larger than the combined GDP of the U.S. and Japan, and have grown from around 3 per cent of global financial assets to 8 per cent during 2002-2013.[39] There is increasing awareness that there are limits to such central bank balance sheet expansion that do not add to investments or stimulate consumption. Indeed, financial booms through central bank action are sapping productivity by misallocating resources.[40]

The world is therefore at risk of falling into a phase of secular stagnation of low growth and deflation at the same time, arising from the reversal of the global credit multiplier, caused in part by the reversal of QE policies, a rise in the real rate of interest (including risk premiums) and a slowdown due to disruptive technology, as fear of job losses may lead to higher precautionary savings and lower consumption. Indeed, greater uncertainty from climate change and conflict add to anxieties that threaten a further slowdown in aggregate demand.

Recognizing these threats, the Group of Thirty (2015) undertook a major study on the role of central banks in fostering financial stability, longer-term price stability and central bank independence.[41]

The study showed that the macroeconomic side effects of QE in advanced economies (AEs) may be reinforcing secular slowdown. In virtually every country that retained a sound banking system, residential property prices and household debt had reached record levels by end-2014. Stock prices in many countries hit new peaks, while spreads on high-yield bonds and even peripheral sovereigns in Europe fell to extremely low levels. In early 2015, negative bond yields have emerged for core sovereigns in the Euro area.[42]

On the other hand, the macroeconomic side effects of QE in EMEs were more severe. As interest rates declined, EME credit growth remained high, with household debt levels rising. By closely managing their exchange rates, EMEs imported the credit-based problems originally affecting AEs, with higher inflationary pressures in some countries. As a result, the BRICS countries have all slowed significantly, due to the impact of short-term capital flows, lower commodity prices and increasing concerns on financial fallout and fiscal implications for governments.[43]

If exit from QE is likely to happen too late, the world will be caught in a debt trap, as debtors will resist monetary tightening and central banks could suffer capital losses when rates rise. There is unlikely to be an easy way out of the current dilemma, for both the AEs and EMEs.

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[38] BAML. 2015. "*A Transforming World: Year Ahead 2015 – 7 Transforming World themes for 2015*."
[39] FSB. 2014. "*Global Shadow Banking Monitoring Report 2014*." Exhibit 2-1: Assets of Financial Intermediaries, 20 Jurisdictions and Euro Area.
[40] Borio, Claudio. 2015. "*Challenges for the Global Economy: A Narrowing road?*" BIS, Presented at Belgium Financial Forum, Bruxelles, 14 September.
[41] Group of Thirty. 2015. "*Fundamentals of Central Banking: Lessons from the Crisis*." Washington DC, U.S.A.: The Group of Thirty.
[42] Group of Thirty. 2015. Op. cit, p. 39
[43] Group of Thirty. 2015. Op. cit, pp. 41-42.

Section 4: Debt, Equity and System Stability

This section links the micro-economics of corporate funding and behavior with the macroeconomics of capital flows and political economy of the international monetary system. Once we recognize that these are all related and interactive with each other, we begin to appreciate the advantages of looking at the system as a whole.

Professor Ajit Singh was a colleague of Cambridge University Professors Joan Robinson and Robin Marris, who were both influential in looking at the theory of the firm and corporate behavior. Through empirical studies, Ajit found that companies do not always behave as predicted by conventional theory. In two pioneering works, Growth Profitability and Valuation (1968, co-authored with Geoffrey Whittington) and Takeovers: Their Relevance to the Stock Market and the Theory of the Firm (1972), Ajit shattered the myth that stock markets worked efficiently because corporate managers worked to maximize shareholder value. Indeed, in many cases, takeovers were found to diminish shareholder value. Throughout his career, he challenged the status quo through empirical research, not quantitative models – and questioned whether the so-called efficient markets would deliver the best results for all?

In addition, Ajit also worked on the de-industrialization of advanced countries. And as a former student of Indian Prime Minister Manmohan Singh, Ajit had a keen interest in economic development, specifically, the interaction between financial development, industrialization and international competitiveness. In this regard, he examined the role of the state, industrial policy, structural change and competition policy.

When he became TIAC Professor in 2010, I was fortunate to collaborate with him on a paper on Islamic Finance, since it is equity-based. This meant that Islamic finance should be founded on stock markets, rather than debt markets. This raised a conundrum that he found irresistible, as his own work had shown that public stock markets were not as efficient as typically envisaged. As a market regulator and practitioner, I was more open to the idea of efficient stock markets, but the collaboration with Ajit opened up issues and avenues that we both did not anticipate.

Our joint paper on Islamic Finance, later published in a World Bank book on Islamic Finance[44], examined in depth the issues and complexities of the development of Islamic equity markets. In this, we benefited considerably from the wisdom and insights of INCEIF Professor Abbas Mirakhor, probably the dean of thinkers on Islamic finance, who propounded the idea that the key difference between Islamic finance and mainstream finance is that the former is about risk-sharing, whereas the latter is all about risk-shifting.

Ajit was always clear-sighted on the important issues that affected emerging markets and fearless in his critique of loose-thinking in economics. Every time we met in London and Cambridge, we also had a great discussion on central banking and debt-driven finance.

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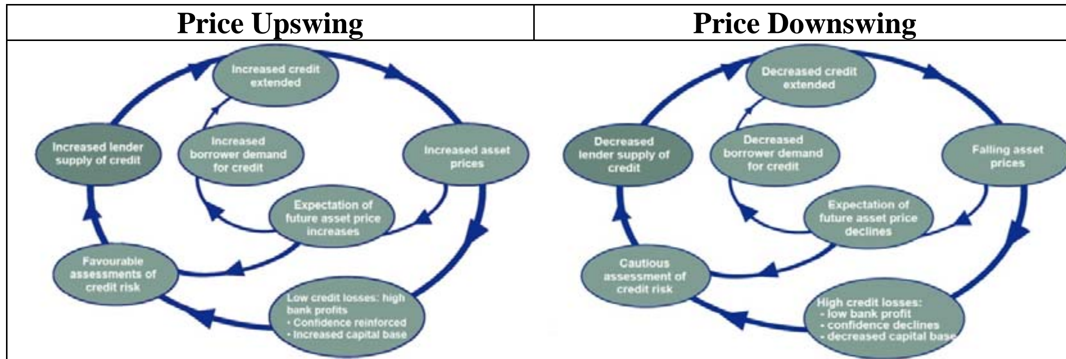
[44] Sheng, Andrew & Ajit Singh. 2013. "Islamic Finance Revisited: Conceptual and Analytical Issues from the Perspective of Conventional Economics." In Zamir Iqbal & Abbas Mirakhor (eds.) *Economic Development and Islamic Finance.* The World Bank.

As Adair Turner[45] has eloquently argued, the swings in the global financial system are procyclically accentuated by the leverage between the financial system and real estate collateral prices (Figure 3).

Figure 3: Financial Market Systemic Risks Originate from Interactions Among Domestic and Global Participants



Source: Turner, et. al. 2010. "*The Future of Finance: The LSE Report*."

Dollar, Euro and Yen liquidity and low interest rates created higher asset bubbles in EMEs, and with a high correlation between domestic and global markets, changes in QE will have a procyclical impact on capital flows, prices of land, asset bubbles, interest rates and exchange rates in EMEs.

What can EMEs do to ameliorate themselves from the implications of adjustment in the advanced economies?

The answer is that getting out of the secular stagnation trap is possible only if the total factor productivity of the EMEs remain superior to the AEs. The EMEs face huge challenges in the need to provide jobs for a growing labor force, especially in countries with younger demographic profiles. At the same time, with the rise of robotics, manufacturing is unlikely to be a major creator of new jobs, since even countries like China are shifting rapidly to robotics.

The only hope for job creation is therefore through the small and medium enterprises (SMEs), especially in the services sector. SMEs are major sources of innovation, entrepreneurship and job creation. But that means that the current system of funding of enterprises will have to change.

There are flaws in the current "NYSE model" of stock markets for EMEs. This model assumes that EME financial deepening would happen if their local stock market behaved with Wall Street-style sophistication, like the NYSE or NASDAQ eco-system. The current model of EME stock markets under-estimated the difficulties of building up a whole eco-system of strong SMEs and innovation start-ups that play a role in mature secondary market development, since the IPO is an exit mechanism for

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[45] Turner, Adair, Andrew Haldane, Paul Woolley, Sushil Wadhwani, Charles Goodhart, Andrew Smithers, Andrew Large, John Kay, Martin Wolf, Peter Boone, Simon Johnson & Richard Layard. 2010. "*The Future of Finance: The LSE Report*." London School of Economics and Political Science. p. 80 & 85.

startup funding. The result is that the NYSE model replicated in many EMEs are often overloaded with privileged state-owned enterprises (SOEs), oligopolistic private corporations, with speculative and inexperienced retail investors – resulting in weak corporate governance, predatory behavior in market manipulation, high volatility and lack of access to funding by SMEs. In turn, under-developed stock markets result in debt-dominance in fragile financial systems with overleveraged banks, households, corporations and governments.

The reality is that complex and sophisticated systems take a long time to build and require an eco-system of supporting institutions and intermediaries that take generations to nurture. Because public listings through IPO funding are expensive relative to debt, very few SMEs are able to access IPOs. Consequently, public listings are highly concentrated. At the end of 2014, we have 44,540 listed companies controlling US$63.5 trillion of market capitalization versus millions of SMEs without access to capital markets[46]. Ownership of these corporations is also concentrated in large asset management (including pension funds) institutions and the wealthy. Because the retail investors cannot afford to buy shares in these large cap companies, they are involved mainly in small cap (penny) stocks, which are more volatile in price and turnover and also have poorer corporate governance. Such behavior worsens income and wealth inequalities.

There is also high concentration of firms' capital raising. An HKIMR study on balance sheets of 45,527 listed firms in 51 countries revealed three patterns. First, only few large firms issue equity or bonds, with a small number accounting for a large proportion of the funds raised during the 1990s and 2000s. Second, issuers grow faster than non-issuers in terms of assets, sales and employment, meaning that those who have access grow faster than those without access. Third, size distribution of issuers became more concentrated, whereas non-issuers became more dispersed.[47]

Building strong equity markets with broader access at different levels is a multi-year eco-system development project. Fortunately, technology in the form of crowd funding is changing the ability of startups to access equity funding, making such funding faster and less costly.[48] Because returns on high technology projects by small startups yield superior returns, many of the investments have now moved to private markets, with specialist venture capital companies and angel investors. [49]

Islamic equity markets can draw on the significant experience in many EME markets to build a stronger system of equity markets that are innovative, inclusive and ethics-based. The strong sukuk base, with options for rewarding upside performance of investee sovereigns or corporates, is an example where Islamic Finance has a base of comparative advantage to build on.

Stock markets are not independent of local culture, institutional framework and demographic profile. We can draw out some valuable lessons from the recent

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[46] World Federation of Exchanges, January 2015 Monthly Report at www.world-exchanges.org.
[47] Didier,Tatiana, Ross Levine & Sergio L. Schmukler. 2015. "*Capital Market Financing, Firm Growth and Firm Size Distribution*." HKIMR Working Paper 17/2015.
[48] Bender, Morgan, Benedict Evans & Scott Kupor. 2015. "*US Tech Funding – What's Going On?*" Andreessen Horowitz.
[49] Morgan Bender. 2015. Op. cit. p. 30

developments in the A-share market in China and those from Silicon Valley. Firstly, it would be risky to push stock markets through leverage, as the experience from margin-financing in the A-share market recently demonstrated. Secondly, there should be a balance between retail investors and institutional investors, with priority given to developing long-term institutional investors that can become market stabilizers, to counterbalance against retail herding behavior in volatile markets. The most dangerous bubbles occur when both retail and institutional investors exhibit irrational exuberance. Thirdly, the retail investor should have access to good blue-chip stocks with strong corporate governance and high dividend yields to satisfy their appetite for long-term capital returns and yields for their long-term savings.

In order to get the global and national financial systems to de-leverage and to have the capacity to absorb radical uncertainty arising from major system changes (demographics, technology, geo-politics, climate warming, debt overhang), one way out is to completely rebuild our capital markets to assist our real sectors to beef up their equity base and reduce their debt burdens.

The main lesson from Silicon Valley equity funding for startups is that one should have a portfolio approach to returns on equity. Startup funding works on the basis that if less than 5 per cent of the startups achieve unicorn status (US$1 billion in valuation), then the profits from these investments would far outweigh the losses from investments in the startups that fail. However, not all the investments in the failed startups are a dead-weight loss to society as a whole, since the experience from such failures would not only prepare for the next innovation break-through but also generate future employment.

In other words, whilst such portfolio investment strategy may not work in a situation where returns on equity are stable and limited, the rise of disruptive technology in a situation of radical uncertainty means that the only way to invest is not by picking winners, but by investing through a wide spread in a portfolio of startups – cheap options that could yield very high returns. Let the mass innovation decide who should be the winner.

In simple terms, in a situation of limited information, where scale is important, policymakers may decide to pick on large corporations and scale winners. This explains the use of SOEs and large corporate giants. But with new breakthroughs in technology arising from widespread knowledge diffusion under the Internet revolution, where SMEs can access global markets, then a portfolio of investments in "good Black Swans" can generate the returns that compensate for losses from "bad Black Swans".

The analogy is the insight I had from looking at how caravans started across the desert at the beginning of the Silk Road. Faced with multiple risks and dangers, Islamic finance was spread through trade in caravans. These caravans could not have been financed by conventional banking, since the losses are likely to be catastrophic from dust storms, robbers and cheating. Islamic finance is precisely venture capital equity funding, requiring very high returns from very high uncertainties. This is not to say that there should be faith and trust in the caravan team (or SME corporate governance).

In the spirit of financial inclusion, there should therefore be a concerted policy review on how to get the eco-system to help SMEs and start-ups reduce their transaction costs, improve market access and strengthen their general capacity to compete effectively. In other words, one should use SMEs to compete at a global level, since for most EMEs, their own domestic markets do not provide the requisite scale for higher returns.

Creating the eco-system means that the policymakers should create the platform and the rules for SMEs to access knowledge, skills and then funding. Alibaba's Jack Ma recently called for an e-WTO or world trade agreement on creating global e-commerce trade for SMEs. In other words, we need to have a holistic policy framework and eco-system for helping SMEs succeed, rather than using very specialized agencies, such as SME funding agencies, who cannot deal with the system-wide needs of diverse types of SMEs.

For example, the NITI Aayog (National Institute for Transformation of India) decided that it was more important to train SMEs in diverse sectors on entrepreneurship and innovation, rather than deciding on a sector-by-sector basis on how to pick winners in agriculture, manufacturing or services. Since different SMEs in different environments know their areas quite well, but do not have the necessary corporate management, technology, marketing, creativity or finance skills, getting them to understand how to innovate and build their businesses would be a radical, but bottom-up, approach to generating nation-wide innovation and entrepreneurship.

By getting civil society (NGOs), academics, professional institutes and businesses and civil servants to work together today, it may be possible through technology to design the first platforms that enable SMEs to compete on their areas of skills and specialization. Furthermore, it would then draw upon skills in academia, retired professionals and businessmen and civil servants that could help these SMEs reach take-off momentum.

Of course, ultimately, the success of all enterprises depends on corporate governance built on corporate values, trust and integrity. This requires the regulators to exercise regulatory discipline in reining in excesses, such as cheating and market manipulation. On the other hand, there may be a need to amend company laws to create the incentives on remuneration, differential equity ownership classes that align interests between passive investors and active management (Haldane, 2015).[50]

Section 5: Implications for Malaysia

The above brief survey of the issues facing national development and its financing shows that there are global and domestic issues that must be taken into consideration in preparing to take the nation to the next level.

At the meta (mindset) level, we cannot deal with the challenges of the 21st century with 20th century glasses. We need to think through whether our present mindset of looking at all issues through an ethnic perspective with competing interests can allow

[50] Haldane, Andrew. 2015, May. "*Who Owns a Company?*" Bank of England. Speech given at the University of Edinburgh Corporate Finance Conference, 22 May 2015.

us to compete in a highly complex and competitive world in order to obtain the resources for us to undertake true social engineering – more social equality and narrowing the gaps between the rural and the urban, the under-privileged and preparing them to innovate and compete in the 21st century.

At the micro-level, social media and internet technology has already moved to the stage in which micro-enterprises can reach scale and speed in global markets, creating wealth and income opportunities that was not possible before the Internet Age. How we create the eco-system for that to happen is completely within our capability and capacity. Malaysia is fortunate to be both home to one of the world's greatest tropical and marine bio-diversity as well as a base in electronic manufacturing and services that can take us to the next level.

At the macro-level, Malaysia will be buffeted by geopolitical tensions and big power plays. By being part of ASEAN and politically neutral, however, Malaysia can be the honest broker to many regional and multilateral negotiations in which we can influence global and regional policies.

At the mezo- or institutional level, Malaysia can build on its strengths in institutions and is small and flexible enough to innovate institutionally to effect change.

The IMF has recently published a major study on the Future of Asian Finance. If Asia is to become a major player in the global economy, the IMF study argues that Asian finance needs to take a bigger role, including: better managing accumulated saving; efficiently mobilizing saving; investing in human and physical capital, deepening capital markets to escape a "middle-income trap"; and supporting economic and financial integration of ASEAN.[51]

My recent study on EME Finance to 2050, for the Emerging Markets Forum, suggest that we need to strengthen our equity and long-term capital markets to foster the innovation and technology that will enable us to get out of the debt-deflation trap[52].

Since 21st Century financial services is about money and information business, it is important that the next round of development finance will have to use FinTech (financial technology platforms) to match the needs of new consumer and investor lifestyles (social media and Internet) that are transforming traditional businesses in payments, trading, credit and asset management of banks, insurance companies, securities and asset managers. Information companies like Google, Amazon and Alibaba have now surpassed the market value of traditional banks. Asians are embracing the trend toward mobile, tech-savvy and Internet of Things fast.[53]

In order to address the rural-urban imbalances and also the wealth and income imbalances, Malaysia must lift its game in terms of funding the next generation of wealth and income generators. Can traditional finance tackle these high risk-low

[51] Sahay, Ratna, Jerald Schiff, Cheng Hoon Lim, Chikahisa Sumi & James P. Walsh. 2015. "*The Future of Asian Finance*." IMF. Washington DC, U.S.A.: IMF Publications.
[52] Sheng, Andrew. 2015. "*Finance for the Future – Funding Growth, Inclusivity and Environment*." Emerging Markets Forum, Tokyo (forthcoming).
[53] Oliver Wyman. 2013. "*A Money and Information Business: The State of the Financial Services Industry 2013*."

return challenges? Can Islamic finance, where Malaysia has made many pioneering efforts to reach the current level, be simply conventional banking with an Islamic label? Can we continue to rely on GLCs to generate the next level of business and export income for Malaysia or shall we rely on a whole spread of new startups?

In short, where is the next National Profit Opportunity coming from? Why aren't we grooming the next AirBnB in Malaysia?

Malaysia has many strengths which it can use to build its 21st century competitiveness. We already have in the Employees Provident Fund and other pension and insurance schemes a deep institutional set-up for funding innovation and entrepreneurship. Our investment agencies, such as Khazanah Nasional Berhad, PNB and associated institutions, are sophisticated institutions with deep understanding of the cutting edge of investment and asset management. What is needed is a re-think towards how to foster startups in the new FinTech age. In the banking area, we need to think beyond QE and Basel III to have regulations designed "fit for purpose". In the capital markets, how we can increase equity capital through crowd-funding and venture capital and trade finance for SMEs must be the way to go. Malaysia is already advanced in leading regional cooperation through ASEAN and further multilateralization of currency swaps by incorporating SME trade and infrastructure funding mechanisms within such schemes.

There is a clear pattern of development which Malaysia can exploit. Malaysia does not have the size or scale to do everything, but if we succeed in a niche market, within the global supply chain, we can leapfrog development. Asia is in the midst of a very exciting transformation into the New Economy of services and knowledge based activities, where creativity, innovation and entrepreneurship, especially in socially inclusive and ecologically efficient and sustainable areas, should be celebrated. Malaysia as a small economy need only succeed in the niche market – think out of the box from commodities into the New Knowledge-based Service economy – using our comparative advantages in the Internet of Things.

Section 6: Conclusion

To conclude, our future will be built on the shoulders of giants. Professors McKinnon and Singh deserve our praise and respect, because even though they were brilliant and original minds, they were humble and modest to their students, steadfast in their friendships and courageous in speaking their minds in the best of intellectual traditions.

The future is clearly uncertain, but at the same time, we have many opportunities to create the future of our own shaping, because we are small and nimble enough, in the right geographical neighborhood and able to tap the knowledge, skills and talent from everywhere.

Development is all about adapting to a brave new world; finance is only the flip side of putting our scarce savings to the best use.

Kuala Lumpur
November 25, 2015

References

Arthur, Brian. 2014. "*Complexity and the Economy*." London: Oxford University Press.

BAML. 2015. "*A Transforming World: Year Ahead 2015 – 7 Transforming World themes for 2015*."

Bauer, Peter T. & Brian S. Yamey. 1957. "*The Economics of Under-developed Countries*." U.S.A.: The University of Chicago Press.

Bender, Morgan, Benedict Evans & Scott Kupor. 2015. "*US Tech Funding – What's Going On?*" Andreessen Horowitz.

Borio, Claudio. 2015. "*Challenges for the Global Economy: A Narrowing road?*" BIS, Presented at Belgium Financial Forum, Bruxelles, 14 September.

Christopoulos & McAdam. 2015. "*Do Financial Reforms Help Stabilize Inequality*?" ECB Working Paper Series.

Credit Suisse. 2015, October. "*Global Wealth Report 2015*."

Didier,Tatiana, Ross Levine & Sergio L. Schmukler. 2015. "*Capital Market Financing, Firm Growth and Firm Size Distribution*." HKIMR Working Paper 17/2015.

FSB. 2014. "*Global Shadow Banking Monitoring Report 2014*." Exhibit 2-1: Assets of Financial Intermediaries, 20 Jurisdictions and Euro Area.

Group of Thirty. 2015. "*Fundamentals of Central Banking: Lessons from the Crisis*." Washington DC, U.S.A.: The Group of Thirty.

Gurley, John G. & Edward S. Shaw. 1960. "*Money in a Theory of Finance*." Washington DC, U.S.A.: Brookings Institution.

Haberler, Gottfried. 1959. "*International Trade and Economic Development*." Cairo: National Bank of Egypt.

Haldane, Andrew. 2014. "*Managing Global Finance as a System*." Bank of England. Speech given at the Maxwell Fry Annual Global Finance Lecture, Birmingham University, 29 October 2014.

Haldane, Andrew. 2015, May. "*Who Owns a Company?*" Bank of England. Speech given at the University of Edinburgh Corporate Finance Conference, 22 May 2015.

Haldane, Andrew. 2015. "*On Microscopes and Telescopes*." Bank of England. Speech given at the Lorentz centre workshop on socio-economic complexity, Leiden, 27 March 2015.

Heath, Alexandra. 2007. "*What Explains the US Net Income Balance?*" BIS Working Papers 223, Bank for International Settlements, Basel, Switzerland.

Hemachandra, W.M. 2003. "*Financial Deepening and its Implications on Savings and Investments in Sri Lanka*." Central Bank of Sri Lanka, Staff Studies, *33*(1&2), p. 15-32.

Hirschman, Albert O. 1984. "A Dissenter's Confession: The Strategy of Economic Development Revisited." In Gerald Meier & Dudley Seers (eds.), *Pioneers in Development*. World Bank. London: Oxford University Press.

Lewis, William Arthur. 1955. "*The Theory of Economic Growth*." London: Allen and Unwin.

Li, Cindy. 2015, Oct. "*Banking on China through Currency Swap Agreements*." Federal Reserve Bank of San Francisco.

McKinnon, Ronald. 1973. "*Money and Capital in Economic Development*." Washington DC, U.S.A.: Brookings Institution Press.

McKinnon, Ronald. 2002. "*The World Dollar Standard and the East Asian Exchange Rate Dilemma*." TIAC Public Lecture.

McKinnon, Ronald & Gunther Schnabl. 2014. "*China's Exchange Rate and Financial Repression: The Conflicted Emergence of the Renminbi as an International Currency*." CESifo Working Paper Series 4649.

McKinsey Global Institute. 2015. "*Debt and (not much) Deleveraging*."

McPherson, Malcolm F. & Tzvetana Rakovski. 1999. "*Financial Deepening and Investment in Africa: Evidence from Botswana and Mauritius*." Harvard Institute for International Development Discussion Paper 727.

Modigliani, Franco & Merton H. Miller. 1958. "*The Cost of Capital, Corporate Finance and the Theory of Investment*." The American Economic Review, *48*(3), pp. 261-297.

Oliver Wyman. 2013. "*A Money and Information Business: The State of the Financial Services Industry 2013*."

Prebisch, Raul. 1984. "Five Stages in My Thinking on Development." In Gerald Meier & Dudley Seers (eds.), *Pioneers in Development*. World Bank. London: Oxford University Press, pp 175-191.

Rodrik, Dani & Ricardo Hausmann. 2003. "*Economic Development as Self-discovery*."

Rodrik, Dani. 2008. "*The New Development Economics: We Shall Experiment, but How Shall We Learn?*"

Rostow, W.W. 1959. "*The Stages of Economic Growth*." *The Economic History Review*, *12*(1), pp. 1-3.

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

Sahay, Ratna, Jerald Schiff, Cheng Hoon Lim, Chikahisa Sumi & James P. Walsh. 2015. "*The Future of Asian Finance*." IMF. Washington DC, U.S.A.: IMF Publications.

Sheng, Andrew & Ajit Singh. 2013. "Islamic Finance Revisited: Conceptual and Analytical Issues from the Perspective of Conventional Economics." In Zamir Iqbal & Abbas Mirakhor (eds.) *Economic Development and Islamic Finance.* The World Bank.

Simon, Herbert A. 1962. "*The Architecture of Complexity*." Carnegie Institute of Technology. Proceedings of the American Philosophical Society, *106*(6), pp. 467-482.

Streeten, Paul. 1963. "*Balanced versus Unbalanced Growth.*" The Economic Weekly, April 20, pp. 669-71.

Soros, George. 2013. "Fallibility, Reflexivity, and the Human Uncertainty Principle." *Journal of Economic Methodology*, *20*(4), pp. 309-329.

The Economist. 2015. "*The Never-ending Story*." *The Chronicles of Debt: The Economist Magazine*, *November 14th-20th 2015 issue*, p. 13.

Tun Ismail Mohd Ali, Relations with Treasuries etc, BNM 20th Anniversary publication.

Turner, Adair, Andrew Haldane, Paul Woolley, Sushil Wadhwani, Charles Goodhart, Andrew Smithers, Andrew Large, John Kay, Martin Wolf, Peter Boone, Simon Johnson & Richard Layard. 2010. "*The Future of Finance: The LSE Report*." London School of Economics and Political Science. p. 80 & 85.

World Federation of Exchanges, January 2015 Monthly Report at www.world-exchanges.org.