



SCALING THE EFFICIENCY FRONTIER

INSTITUTIONS • INNOVATION • INCLUSION

CONCEPT PAPER

Scaling the Efficiency Frontier: Institutions, Innovation, Inclusion

INTRODUCTION

At a basic level, the productive capacity of an economy is capped by the amount of inputs available for utilisation, in terms of capital and labour, as well as the technological capability of society at a given point in time. Coordinating and efficiently applying inputs and technology leads to an economy achieving its maximum potential level of production. This is represented by the Production Possibility Frontier (PPF), which in essence depicts the productive efficiency frontier of an economy. However, this is a static point-in time observation. In the real world, economies are dynamic; entrepreneurs create new products and better coordinate inputs, leading to a continuum of technological and process innovation which pushes out the boundaries of an economy's efficiency frontier.

Scaling this efficiency frontier means having institutions which incentivise entrepreneurs to take risks and innovate, instead of engaging in unproductive rent-seeking activities. These institutions need to be inclusive, in the sense that they give all members of society a vested interest in innovation-led economic progress, in spite of the Schumpeterian creative destruction this may entail in the short-run. The irony is that the social consensus behind this model of growth is now being threatened; globally, we live in an era of unprecedented technological progress and innovation, yet face an environment of low economic growth and increasing income inequality.

This year's Khazanah Megatrend Forum (KMF) focuses on finding a pathway for sustainable economic growth. Our topic of "Scaling the Efficiency Frontier through Institutions, Innovation and Inclusion" reminds people that resources for growth are finite, and society needs to make social and economic trade-offs, balancing competing interests with the objective of making life better for everyone. Defining and managing this trade-off matters for Khazanah Nasional, as in its role as Malaysia's Strategic Investment Fund it has to balance narrow commercial interests with a broader national social agenda.

DEVELOPMENTAL CHALLENGES

Twenty years ago, Paul Krugman(1994) published an article in *Foreign Affairs* entitled "The Myth of Asia's Miracle". Drawing parallels with the Soviet Union's growth spurt in the 1950s, he challenged the existing consensus over the inevitability of Asia's economic ascendancy. His basic argument? That Asia's super-charged growth throughout the 1970s to mid-1990s was largely explained by the mobilisation of domestic resources, both capital i.e. forced savings and foreign direct investment incentives and labour i.e. higher participation rates and education, neither of which were sustainable over the long-run.

This was a stark contrast to the accepted nature of earlier American economic growth; work by John Kendrick(1961) and Robert Solow(1957) had found that between 80-90% of American growth in the first half of the 20th century was explained by total factor productivity (TFP), ie. the more efficient utilisation of pre-existing capital and labour, and not by the application of ever-increasing amounts of capital and labour, as was the case in Asia. For example, one study by the OECD showed that in Singapore, TFP growth explained just 20% of overall GDP growth between 1975 and 1995, with most of the balance explained by capital mobilisation¹.

¹Wong, Soon Teck, and Benson Sim Soon Seng. "Total Factor Productivity Growth in Singapore: Methodology and Trends." *Capital Stock Conference*. Singapore: OECD, 1997. 4.

Krugman argued that unless Asia improved on the efficiency or productivity of its capital and labour, growth would eventually fall due to the diminishing marginal return of these inputs. According to the Solow Growth Model, applying more capital per worker, i.e. investment, would result in higher output per worker, i.e. labour productivity, which translates into income growth, but only up to a point. As the economy reached capital-saturation, additional capital would cease to lead to higher output, and hence income growth would stall. There are two important implications to this observation. Firstly, in the long-run, the only sustainable driver of income growth is TFP growth. Secondly, as developing countries approach the capital intensity and technological levels of richer countries, economic growth rates will slow down sharply and converge with rich-country growth.

As it is, the momentum of Malaysian economic growth and much of developing Asia has indeed fallen over time. Growth has averaged at just 4-5% per annum over the past decade, compared to 6.5% between 1980 and 2000². On the surface, the primary reason for this has been the sharp decline in investments as a share of GDP, which reflects a diminishing anticipated rate of return on capital. A deeper analysis could point toward the devastating impact of the AFC in 1997/98 on the industrial and financial structure of developing Asia or the re-emergence of China and India.

Whatever the causes, the slowdown is undeniable and indeed the NEM and ETP have emphasised that Malaysia's economy has to transition away from an input-led growth model towards one driven by productivity. This is still a work in progress; TFP growth has risen from 1.3% per annum over 1980-2000 to 1.6% over 2000-2010³, but this reflects one-off evolutionary shifts in the economy, such as urbanisation and post-industrialisation.

Arguably, relative to China (2.7% TFP growth rate over 1994-2009⁴), Malaysia has not fully exploited other active TFP growth drivers such as labour market reforms or rapid industrial technological adoption. Post Global Financial Crisis, cheap global liquidity has afforded Malaysia the ability to grow mostly through debt-fuelled consumption, stretching household and government balance sheets.

Malaysia is a middle income country on the verge of becoming a high income nation. This will require a fundamental change in the model of growth. According to Ha-Joon Chang (2011), developing countries cannot simply rely on their comparative advantages, rather governments need to intervene and promote other industries that could secure a country's long-term growth. South Korea transformed itself into a

²World Bank data

³“18th Productivity Report”, Malaysia Productivity Corporation, May 2011

⁴Gallina Vincelette, Alvaro Manoel, Ardo Hansson and Louis Kuijs, “China: Global Crisis Avoided, Robust Economic Growth Sustained.” *World Bank Policy Research Working Paper*, September 2010

developed nation by targeting industries such as steel and automobiles in the 60s, shipbuilding in the 70s and semiconductors in the 90s.

Developing countries grow quickly by imitating the technological processes of richer countries, but once this catch-up phase is exhausted, growth has to come through self-created technological and process innovation. Between 1960-2008, just five Asian countries broke-through the middle income trap: Japan, Hong Kong SAR, Singapore, Taiwan ROC and South Korea. This was achieved on the back of an innovative goods and services export sector, which could more than compensate for their citizens' high-wage cost structure. In Malaysia's case, the export sector tends to be dominated either by commodity resources i.e. oil & gas, palm oil or foreign-owned electronics manufacturing. Neither can provide Malaysia with the standard of living of the five Asian Tigers: commodities are not innovation-intensive, while high-tech manufacturing exports have been stagnant (USD65bn in 2007 vs. USD61bn in 2012²).

Effecting this change requires an institutional setup which incentivises risk-taking entrepreneurs and organisations to both innovate and accumulate factors i.e. by organising capital and labour. According to Douglass North, institutions are humanly-devised constraints such as laws, codes of conduct and enforcement, which define the incentive structure of economic actors. Institutions matter to growth; In *Why Nations Fail*, Acemoglu and Robinson argue that a country's economic success is predicated on its institutions. Further research by Dani, Rodrik et al. (2002) suggests that differences in country incomes are largely explained by the variation in the quality of each country's institutions. This includes the government's role in enforcing property rights and determining the intensity of market competition, the degree of which drives people to invest, innovate, and at an aggregate level, allocate resources efficiently. In turn, Ha-Joon Chang (2010) argues that economic development also leads to institutional gains: wealthier societies can afford better institutions, while progress leads to greater demands for transparency and accountability. In short, just as institutions shape and enable economic growth, they have to evolve and adapt along with this growth. When the state fails to catch-up in providing a conducive institutional environment, markets fail. For Malaysia, this implies a radical shake-up of the political-economy, by curbing oligopolies and penalising rent-seeking behaviour.

Of course, things are easier said than done. Graduating from input-driven growth to productivity-driven growth can be socially painful, if not downright politically unacceptable. Technological innovation reconfigures supply chains, destroying old industries in order to make way for new ones. Schumpeter (1942) described this as "creative destruction". Moreover, if initial demand is not sufficient to meet the increased output generated by higher efficiency, job losses are inevitable. Therein lies the paradox of economic progress: costless gains, or Pareto Improvements, are rare and trade-offs must often be made between growth and income equality.

For instance, in the United Kingdom, the Thatcher reforms in the 1980s to privatise state-owned enterprises (SOEs) and curtail labour unions ultimately resulted in above-average TFP growth over 1985-2007, but at the cost of sharply higher unemployment and greater inequality. In China, the SOE privatisation process ultimately led to 20-30 million job-losses between 1998-2004, roughly 60% of the SOE workforce⁵. Fortunately, redundant workers were gradually re-employed by the fast-growing private sector, but the initial social dislocation was severe. Productivity it seems comes at a price.

And yet, for a small country in a globalised world, there is no real alternative. Hence the challenge for Malaysia is two-fold: firstly, improving the inclusiveness of institutional arrangements in order to unleash the bottom-up innovation and entrepreneurship required for productivity-led growth; secondly, managing the social fallout arising from such a radical shift. Governments will need to be both entrepreneurial and visionary, while also back-stopping social risk and managing internal conflict. Certainly, as with all societies, this is a journey that will push Malaysia's social fabric to its stretching point.

⁵“Reform of State-owned Enterprises in China”, *China Labour Bulletin*, December 2007

PROGRAMME DAY ONE

Monday,
29th September 2014

Special Address Scaling the Efficiency Frontier: Institutions, Innovation, Inclusion

What is the role of institutions in driving innovation-led growth and managing the creative destruction that will arise from that innovation?

Session I

Macro and Markets: Somewhere Over the Rainbow – In Search of Alpha over the Frontier

An outward shifting efficiency frontier reflects a growing economy, and at a firm-level, higher ROE. As the old saying goes, ‘a rising tide lifts all boats’. As an economy grows, its composition also shifts, and investors looking for alpha returns will need to know which boats rise the fastest.

Since the Global Financial Crisis, extremely loose monetary policy in developed economies has led to a wall of money flowing into emerging market (EM) countries. According to the IMF, cumulative bond flows into EMs are USD470 billion above trend. Malaysia has been a key beneficiary of this. However, as monetary policies begin to normalise, the threat that this liquidity suddenly reverses is laying bare the underlying fundamental problems faced by EMs: a multi-year credit boom has led to inflated asset prices and

severe misallocation of resources.

In recent years, EM capital efficiency, both at an aggregate (ie. incremental capital output ratio) and firm-level (ie. return on invested capital) has deteriorated. At the same time, abundant liquidity means that asset prices now trade significantly above long-term average multiples. Both of these factors exert downward pressure on future EM investor returns.

Are we in a prolonged period of low investment returns?

Luncheon Address

Innovation, Inclusion and Institutions – the Human Frontier

National human capital management is based on the promise of a virtuous cycle: government institutions subsidize education to create skilled workers, who then form the tax base to pay for the education of the next generation. Individual career management is about going where the highest salary or opportunities are, which potentially translates into brain drain. If the most innovative workers leave, innovation-led growth is not possible.

What specific labour, immigration, and education policies should emerging economies adopt?

Session II

Firms and Transformation: Solving the “Impossible Trinity” of Creating Value through Institutions, Innovation and Inclusion

Institutions shape corporations in different ways. The Board of Directors for example, provides

oversight to company management, and protects the interests of shareholders.

Shareholders demand higher and higher returns while the average shareholding period is generally shortening. Company executives are therefore pressured to employ more short-term, risk-averse strategies such as focusing on their core business. As a result, many companies find themselves with limited growth exposure in the core but weak linkages to the many potential adjacent businesses. This strategy can sometimes backfire when market structure changes due to innovation. Furthermore, to maintain profit growth once the core market revenue potential is exhausted, companies will need to start aggressively cutting costs, squeezing suppliers and cutting employee wages, to the detriment of its stakeholders.

How should CEOs balance shareholder and stakeholder interests while protecting their companies against disruptive innovation? Can firms realistically satisfy all stakeholders?

Special Session

In Pursuit of Happiness – Ethics in an Age of Efficiency

One of the goals for American society outlined in the constitution is the “pursuit of happiness”, that is individuals’ rights to pursue and realize their dreams.

As countries strive to be productively efficient, there may be ethical trade-offs that limit this right.

What exactly is the role of Ethics in building a good society? What is a good society: an efficient one, an ethical one, or inseparably, both?

PROGRAMME DAY TWO

Tuesday,
30th September 2014

Session III

Growth and Development: Scaling the Efficiency Frontier – how do we go ‘Fast and Far’ together?

From Marx to Piketty, social thinkers have long observed that, left to their own devices, markets have a natural tendency to create an unequal outcome in society.

At times, even government intervention is inequitable. The US government’s post-GFC response is a case in point. In the face of fiscal constraints (USD800bn TARP led to fiscal deficit of -12% of GDP in 2010), the onus fell on monetary policy to support a free-falling US economy. The result was quantitative easing (QE), which essentially involved the Federal Reserve (Fed) lowering long-term borrowing costs via the purchase of large amounts of government bonds and other securities.

While QE was crucial in ending the credit crunch and reasonably successful in supporting aggregate demand, it came at the expense of higher inequality. Low interest rates boosted asset prices across the board (stocks, bonds, real estate etc.), with gains disproportionately accrued to the wealthy, while wage earners and retirees found the real value of their savings eroded by low yields and inflation. According to Stiglitz,

persistently low interest rates could have also led to job losses by encouraging firms to replace workers with capital-intensive technologies (e.g. self-checkout machines replacing cashiers), thereby exacerbating inequality.

How do we manage the trade-off between economic growth and income equality?

Special Session

Building the Nation on the Shoulders of Strong Institutions

Acemoglu and Robinson (2012) theorize that institutions can be divided into two kinds - “extractive” institutions in which a “small” group of individuals do their best to exploit the rest of the population, and “inclusive” institutions in which many people are included in the political process and economic development of a society.

Pushing the frontier and achieving sustained economic growth requires inclusive institutions that enable innovative energies to emerge.

How does the inclusiveness of Malaysia’s institutions compare to its neighbours? Can the inclusiveness of the institutions of a society survive the process of economic development?

Special Session – in collaboration with TEDxKL

Innovation Without Borders

Sixty years ago, Solow noted that rising incomes were not due to

capital accumulation, but to technological progress i.e. to learning how to do things better. Learning is therefore an integral part of innovation. Stiglitz and Greenwald (2014) argue that much of the difference in per capita income between developing countries and the more advanced is attributable to differences in knowledge. The transformation to “learning societies” which occurred around 1800 for Western economies, and more recently for those in Asia, appears to have had a greater impact on human well-being than improvements in allocative efficiency or resource accumulation.

Markets are inefficient in the production and dissemination of knowledge and learning. If there are too many competing small firms, none will find it worthwhile to innovate as the gains to them are small even if their industry as a whole would benefit. On the other hand, while monopolists have the resources to innovate, they may direct it toward enhancing their position.

What role do government and institutions play in promoting “learning societies” that unleash innovation?

Session IV

Leadership & People: Scaling our Fears and Scaling our Hopes - The Importance of being Courageous

Aristotle called courage the first virtue, because it makes all of the other virtues possible. In order to scale the efficiency frontier, business and political leaders will need courage to make bold and often unpopular decisions.

Schumpeter’s “creative destruction” will be an inevitable by-product of innovation-led growth.

How can we instil courage in society to persevere through economic restructuring?

Humanitarian Tribute

Finding Hope in Tragedy

Winston Churchill once said that “a pessimist sees the difficulty in every opportunity; an optimist sees the opportunity in every difficulty.”

Optimism has been proven to improve the immune system, prevent chronic disease, and help people cope with unfortunate news. Optimism also plays a protective role when assisting people in coping with extraordinarily trying events such as war.

When a society is facing grave adversity, how can leaders instil optimism and raise hope?

Works Cited

1. Acemoglu, Daron, and James Robinson. *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*. Crown Business, 2012.
2. Chang, Ha-Joon. "Institutions and Economic Development: Theory, Policy and History." *Journal of Institutional Economics*, 2010: 4.
3. Chang, Ha-Joon. *23 Things They Don't Tell You About Capitalism*. Penguin, 2011.
4. Kendrick, John W. *Productivity Trends in the United States*. Princeton NJ: Princeton University Press, 1961.
5. Krugman, Paul. "The Myth of Asia's Miracle." *Foreign Affairs*, 1994.
6. Rodrik, Dani, Arvind Subramanian, and Francesco Trebbi. *Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development*. Working Paper, Cambridge MA: National Bureau of Economic Research, 2002.
7. Schumpeter, Joseph A. *Capitalism, Socialism and Democracy*. New York: Harper, 1942.
8. Solow, Robert M. "Technical Change and the Aggregate Production Function." *The Review of Economics and Statistics*, August 1957: 312-320.
9. Stiglitz, Joseph, and Bruce Greenwald. *Creating a Learning Society: A New Approach to Growth, Development, and Social Progress*. New York: Columbia University Press, 2014.