

SINGAPORE ECONOMIC POLICY FORUM 2010

Industrial Policy, Capabilities and Growth: Where does the Future of Singapore lie?

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Moderator: Mr Manu Bhaskaran, Director and CEO of Centennial Asia Advisors

Introduction

The primary focus of this presentation will be the economic challenges Singapore will face in the next 20 years. The first part of the presentation will provide an analysis of Singapore's drivers of long-run growth – i.e. overall levels of productivity, export capabilities and Singapore's 'product space' (the accumulated capacity of the local export sector to capitalise on available opportunities). The second part of the presentation will then focus on the challenges which are likely to impact these drivers, and the policy options available to the Singapore government in transforming its economy to meet those challenges.

Context

The key question that this presentation poses is: what is the economic future for Singapore? Since independence, Singapore has developed remarkably well for a small city-state with few natural resources. Measured in terms of GDP per capita Singapore is ranked third amongst high income countries, behind oil-rich Norway and the United Arab Emirates (UAE) and above the United States. While this is testimony to Singapore's success and sound economic management, there is no guarantee that past policies will bring about the same level of success in the future. Indeed, as Singapore continues to develop, it is likely to face different forms of competition stemming from both advanced economies and emerging markets – the former group of economies have accumulated technological sophistication and the advantages of incumbency, while the latter group have vast natural and human resources to match its growing ambitions.

As a highly globalised and open economy, Singapore will also be particularly vulnerable to rapidly changing economic conditions. In particular, the impact of the global financial crisis is still reverberating worldwide and affecting many economies directly and indirectly. As a city-state, Singapore's small geographical size will prove to be both an advantage (relative ease of coordination and nimbleness in policy responses) and disadvantage (lack of scale and resources to match larger countries) in the face of greater economic volatility and intensified competition. In light of such circumstances, the future of Singapore will be contingent on its ability to draw on its accumulated capabilities to respond and adapt. In my view, the growth and development prospects of Singapore will depend, to a large extent, on how it enhances its drivers of long-term growth – overall levels of productivity, export capabilities and Singapore's 'product space'.

Part I: Drivers of Long-Run Growth – Productivity, Export Capabilities and Product Space

Structural Change

The long-run growth of any modern economy is largely determined by three factors:

- (i) the levels of productivity across its sectors;
- (ii) the degree of sophistication and diversification found in its export capabilities; and
- (iii) the accumulated capacity of its export sector to capitalise on available opportunities in the international export market.

To remain competitive in the global economy in the long term, countries must continuously adapt and innovate in these three areas. This process of structural change typically involves the movement of resources from less productive to more productive sectors, and the upgrading of technological capabilities to induce both a diversification and an increase in the sophistication of a country's production and export baskets.

As the process of structural change usually involves the mobilisation of labour, capital and technology on a large scale, all of which require careful planning over long periods of time, it is almost always a process that is policy-induced rather than organically driven by invisible market forces. Historically, the visible hands of governments are often influential in guiding the allocation of resources and undertaking strategic investments in identified areas of growth. For example, during their monumental process of economic transformation, the governments of East Asian economies were instrumental in mobilising large proportions of labour and capital, and diverting them from areas of economic activity which had low productivity yields to areas which tended to have higher productivity yields. Nevertheless, this is not to prescribe central planning. Successful cases of structural change and the implementation of industrial policies typically require coordination and collaboration between both the public and private sectors. In other words, comparative advantage is almost always 'manufactured' in deliberate ways.

The Singapore Case

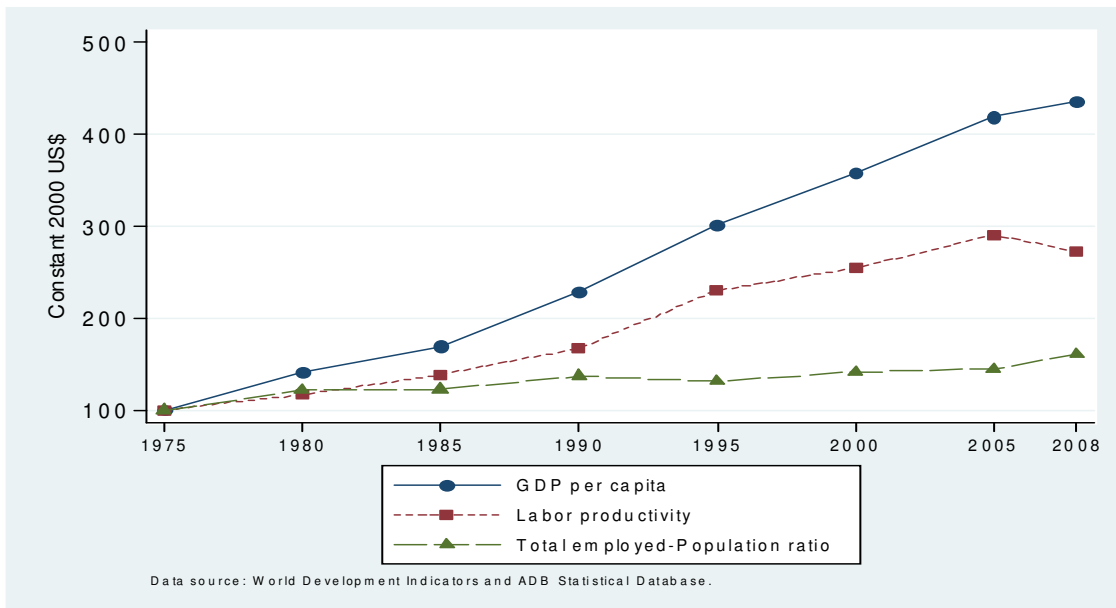
(i) Productivity

Due to careful planning and coordination on the part of the government, Singapore has managed to create synergies and facilitate productive collaborations between the local manufacturing and services industries. The ease of skills' and knowledge transfers between both sectors has helped raise their respective productivity levels. Indeed, there is a high correlation between sophisticated products and sophisticated services as these two sectors require each other's presence and support for continued growth.

Nevertheless, in terms of overall labour productivity, Singapore has started to experience a slowdown in recent years. Based on historical data from the World Bank and Asian Development Bank (ADB), Singapore's GDP per capita, labour productivity and total employed-population ratio (i.e. the proportion of Singapore's working age population that is

employed) rose in tandem, albeit at different speeds, over the period of 1975 – 2005. However, in the subsequent period of 2005 – 2008, Singapore’s labour productivity growth rates fell steadily, while the total employed-population ratio continued to increase gradually. This suggests that Singapore has compensated for its fall in overall levels of labour productivity by mobilising more labour input to sustain its continued rise in GDP per capita (see Chart 1).

Chart 1: GDP per Capita, Labour Productivity and Employment of Singapore (1975 – 2008)



(ii) Export Capabilities

Hidalgo et al. (2007) and Hausmann et al. (2007) have argued that while growth and development are the result of structural change, not all kinds of activities have the same implications for a country’s development prospects. For example, Hausmann et al. demonstrated that the *composition* of a country’s export basket has important consequences for its growth prospects and that, after controlling for initial income, countries with more sophisticated export baskets tend to grow faster. In other words, it is not the level of specialisation but rather, the level of *sophistication* and *diversification* found in a country’s export sector that determines its long run growth prospects. The implication of this finding is that a sustainable growth trajectory must involve the introduction of new goods into existing export baskets and not merely involve continual learning on a fixed set of goods. Indeed, Hidalgo et al. (2007) argue that development should be understood as a process of accumulating more complex sets of capabilities and of creating incentives for those capabilities to be accumulated and used.

Sophistication

At this juncture, it should be clarified that the concept of export sophistication is not an engineering question of whether products are designed or manufactured in technically complex ways. Hausmann, Huwang, and Rodrik (2007) calculate export sophistication as

“the weighted average of the GDP per capita of the countries that export the product in question”. To put simply for illustration purposes – if Good X was exported only by Countries A, B and C in the world, the level of sophistication encapsulated in Good X would be the weighted average GDP per capita of these three countries (i.e. Good X’s level of sophistication is say \$Y). If Country A’s basket of exports consists of only one other product, say Good Z and its level of sophistication happens to be \$Y as well, then the overall sophistication found in Country A’s export basket would be \$2Y.

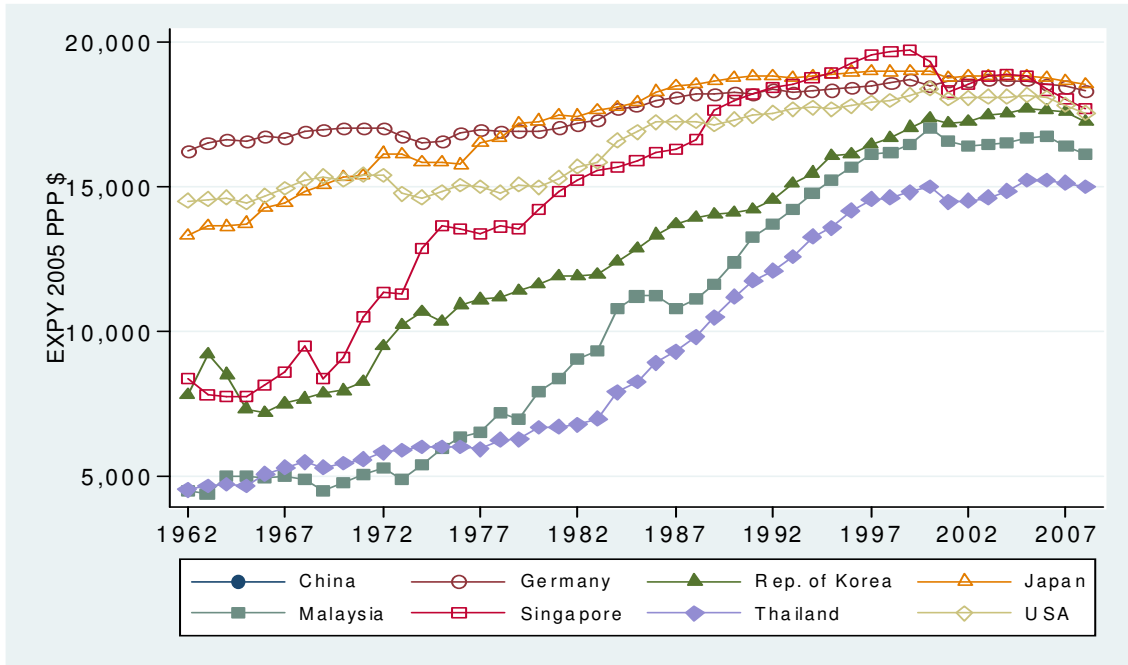
Using this formula, and calculating for the top 20 products, Chart 2 shows a breakdown of the level of sophistication found in Singapore’s export basket. The ‘Sophistication’ column shows the level of sophistication for each product, while the ‘Sophistication at the country level’ denotes the overall level of sophistication found in Singapore’s export basket – excluding services. It is noteworthy that the bulk of Singapore’s export basket value is contributed by electronic microcircuits over the years and that this has shrunk in share since 2005. Nevertheless, Singapore is on par with developed countries in terms of export sophistication such as the US, Japan and Germany (refer to Chart 3).

Chart 2: Level of Sophistication in Singapore’s Export Basket (1962 – 2007)

Description	Sophistication	1962	1965	1975	1985	1995	2005	2007
Electronic microcircuits	17,281				4.6	11.7	19.8	14.6
Peripheral units, including control and adapting units	18,229				1.1	2.8	9.4	3.7
Parts, nes of and accessories for machines of headings 7512 and 752	18,885				5.4	7.8	7.4	2.9
Crystals, and parts, nes of electronic components of heading 776	23,284				1.0	0.7	2.1	2.4
Oxygen-function amino-compounds	26,407				0.2	0.1	2.0	2.4
Medicaments (including veterinary medicaments)	23,588	0.3	0.2	0.5	0.8	0.2	1.4	2.0
Television, radio-broadcasting; transmitters, etc	21,744			0.0	0.1	0.3	2.5	1.6
Organo-sulphur compounds	27,575				0.0	0.0	1.3	1.2
Cyclic hydrocarbons	19,825				0.3	0.6	1.4	1.0
Heterocyclic compound; nucleic acids	29,365				0.6	0.9	1.4	1.0
Switches, relays, fuses, etc; switchboards and control panels, nes	17,255			0.0	0.8	1.1	1.0	0.8
Parts, nes of and accessories for apparatus falling in heading 76	18,887			0.7	2.0	2.8	1.5	0.8
Complete digital central processing units; digital processors	23,685				0.1	3.1	0.9	0.7
Machinery for specialized industries and parts thereof, nes	23,948				0.3	0.5	0.6	0.7
Other electrical machinery and equipment, nes	17,468	0.1	0.0	1.5	1.2	1.4	1.1	0.7
Diodes, transistors, photocells, etc	15,271			0.0	0.8	0.8	1.3	0.7
Polyethylene	20,811				0.6	0.4	0.8	0.7
Other polymerization and copolymerization products	24,342				0.0	0.2	0.8	0.6
Tugs, special purpose vessels and floating structures	8,070	0.0	0.0	0.6	1.1	0.8	0.6	0.6
Chemical products and preparations, nes	22,738	0.2	0.1	0.2	0.3	0.3	0.6	0.5
Subtotal		0.5	0.3	3.7	21.0	36.4	58.0	39.7
Sophistication at the country level		8,369	7,756	13,674	15,922	18,937	18,840	18,050

Note: "Special transactions, commodity not classified according to class" excluded.

Chart 3: Trend in Export Sophistication (1962 – 2007)



Diversification

Unlike the concept of export sophistication, export diversification is measured by the absolute number of products that a country exports *with revealed comparative advantage*¹. Using Leamer’s classification of over 779 exports in world trade, Chart 4 shows the level of diversification found Singapore’s export basket. The level of diversification increased from 1962 and peaked in 1985, before experiencing a steady downward trend up to 2007. From 1965 to 1975, Singapore increased the number of machinery products (includes electronics) which it exported with revealed comparative advantage substantially, before peaking in 1995. At the same time, since 1965, Singapore has also managed to increase the number of chemical products that it exported with revealed comparative advantage up to 2005, before seeing a decline in 2007.

Singapore’s ability to successfully engineer a shift in its export basket and acquire revealed comparative advantages in areas like electronic and chemical products within such a relatively short span of time is atypical of most countries’ development trajectories. Nevertheless, while Singapore’s export basket is on par with developed countries in terms of sophistication, it lags behind many others in terms of export diversification. This lag is likely due to Singapore’s size: Chart 5 shows that smaller countries tend to be ranked lower than bigger countries in terms of export diversification.

¹ Revealed comparative advantage is measured as the ratio of the export share of a given product in a country’s export basket to the same share as the world level.

Chart 4: Export Diversification according to Leamer's Classification (1962 – 2007)

	1962	1965	1975	1985	1995	2005	2007
Petroleum	4	6	7	8	8	3	2
Raw materials	7	4	7	8	5	5	6
Forest products	8	6	10	9	3	1	1
Tropical agriculture	8	9	10	8	6	5	4
Animal products	11	10	14	11	5	5	3
Cereals	12	14	13	13	8	6	4
Labor intensive	12	11	19	17	6	12	9
Capital intensive (exc. Metals)	0	3	9	4	1	2	2
Core products:							
Metal products	6	7	7	5	1	1	0
Machinery	6	3	28	42	44	43	37
Chemicals	5	3	7	12	13	32	25
Total	79	76	131	137	100	115	93

Chart 5: Average Levels of Export Diversification (2001 – 2007)

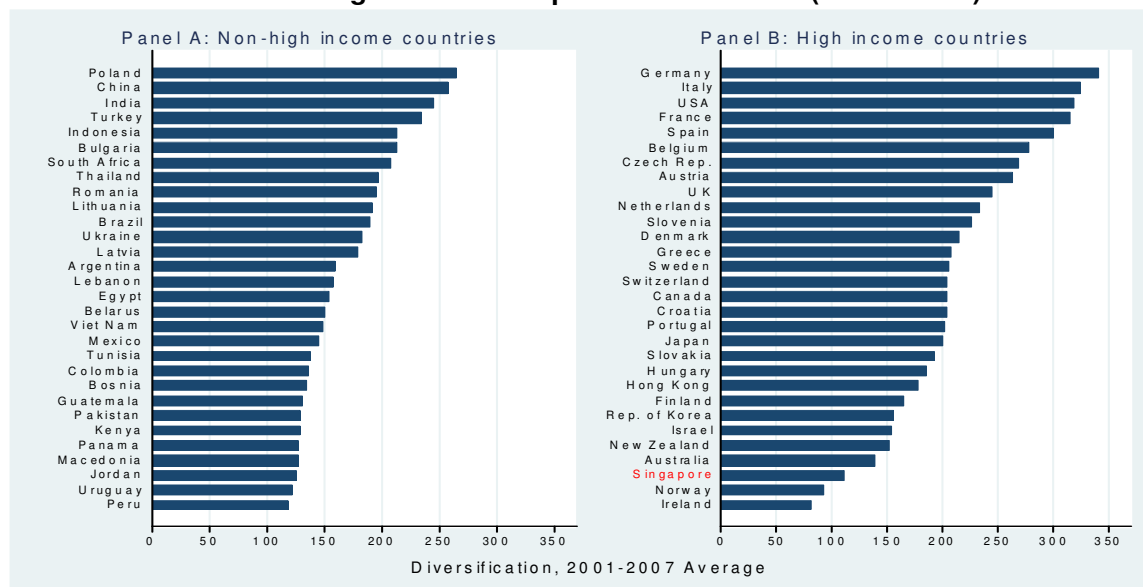
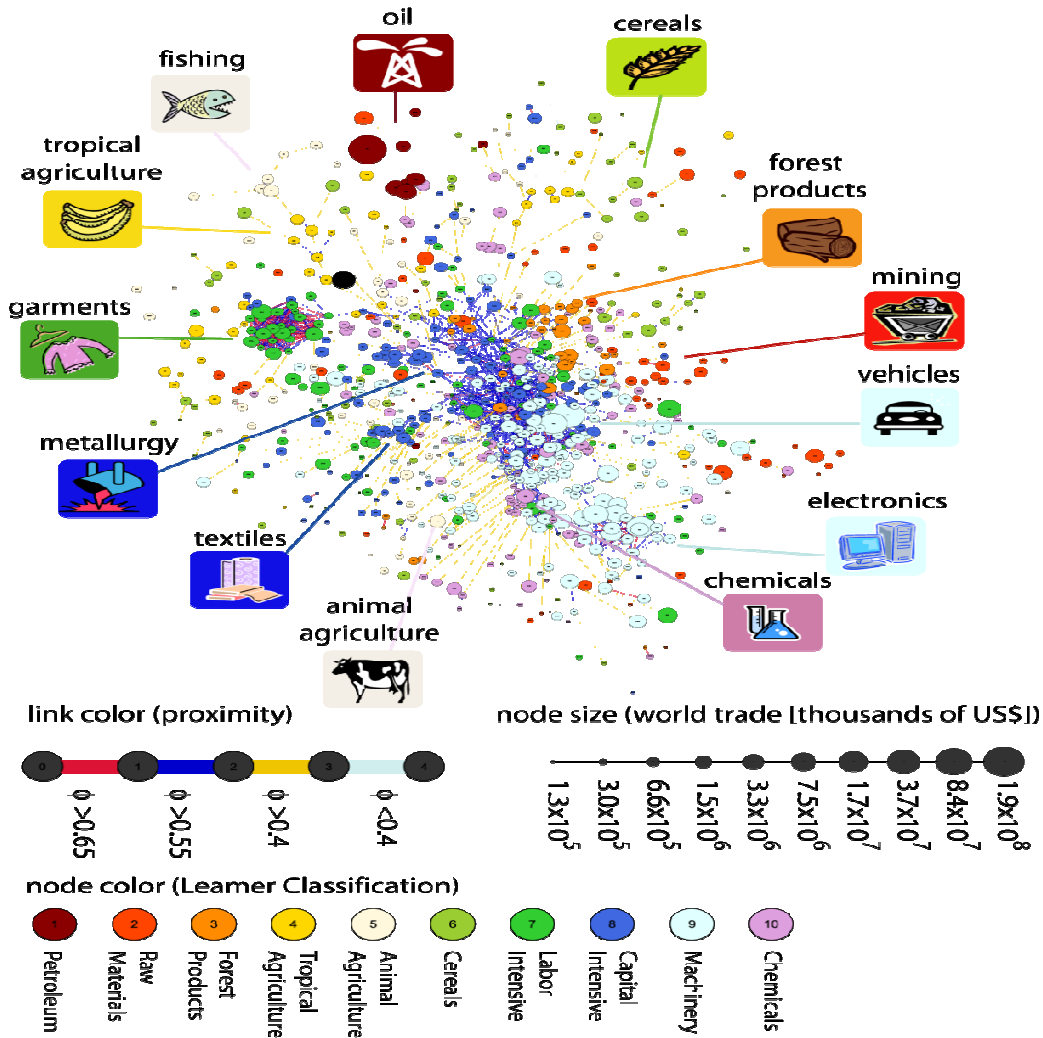
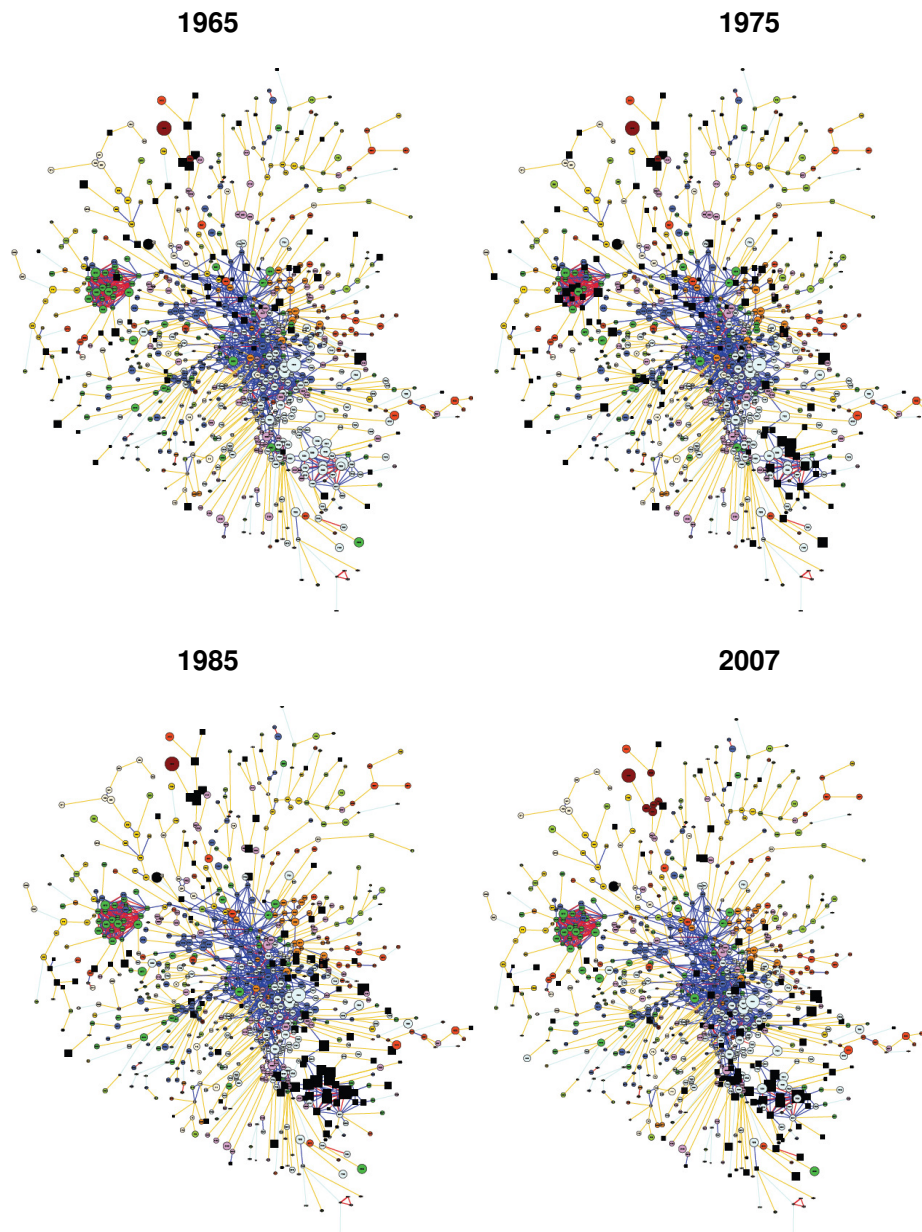


Chart 7: Product Space



Using earlier analyses of Singapore's export basket, both in terms of the levels of sophistication and diversification, the development of Singapore's product space can be mapped onto Chart 7 and traced over time – the products which Singapore exported with revealed comparative advantage are depicted by the black dotted squares on the network-map. From 1965 to 1975, Singapore developed substantial export capabilities in electronics and chemicals clusters, as depicted by the black squares which appear prominently in the lower right-hand side of the 1975 network map. By 1985 Singapore had 'given up' its previously held comparative advantage in producing labour intensive products such as garments and consolidated its capabilities in electronics and chemicals. Finally, by 2007, we can see that Singapore is trying to make inroads into the lucrative central core of the product space, where high value-added goods are produced.



Open Forest

The concept of 'Open Forest' basically measures the opportunities available for a country based on its existing export capabilities. Open Forest is calculated as the weighted average of the sophistication level of all potential export goods of a country (i.e. those goods not yet exported with comparative advantage), where the weight is the density or distance between each of these goods and the good presently exported with comparative advantage. Density (distance) in this context is not a physical concept; rather, it measures how close (or far) a commodity, not exported presently with comparative advantage, is to the commodities in which the country current has a comparative advantage. In other words, the Open Forest of a country is a proxy for the probability that a country can successfully export a 'new' product or acquires comparative advantage in it. In a recent paper, Hausmann et al (2008)

concluded that countries with higher Open Forest indices also have more flexible export baskets (in the sense that this allows jumping into other products easily). In a way, Open Forest is also a measure of a country's potential for further structural change.

Applying the concept of Open Forest, one finds that Singapore's export basket may not be as flexible relative to other developed countries, and even countries which have lower levels of GDP per capita. Compared to Asian countries like Japan, Korea and Hong Kong, Singapore may find it more challenging to acquire comparative advantage in exporting a new product in general. This is may be in part due to its relative small size and lack of natural resources. In a recent "Index of Opportunities" calculation – which took into account a country's level of export sophistication, diversification and Open Forest, Singapore was ranked 33 out of 68 countries. Charts 8 and 9 show Singapore's Open Forest relative to other high income countries.

Chart 8: Open Forest and GDP per Capita

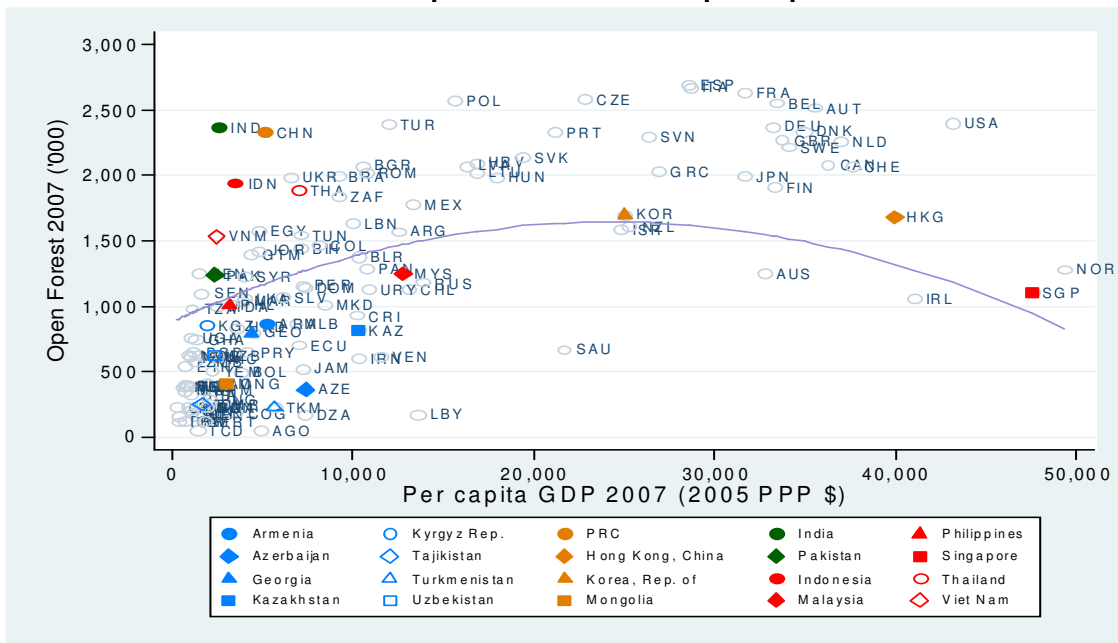
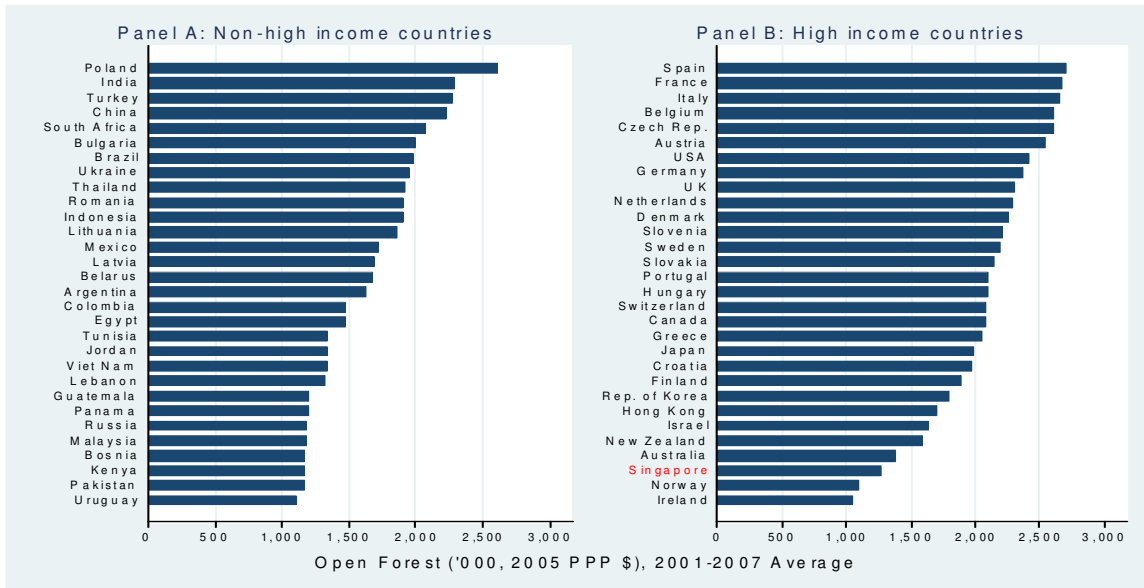


Chart 9: Open Forest



Part II: Challenges and Policy Options

In the first part of the presentation, it is clear that Singapore’s export basket is highly sophisticated and on par with the developed countries. This level of export sophistication has allowed Singapore to achieve one of the highest GDP per capita in the world. However, it is noteworthy that the levels of diversification and flexibility (as depicted by the Open Forest index) found in Singapore’s export basket lags behind many developed countries. Apart from the relative lack of size and resources, the decline in productivity levels as pointed out earlier may have been a contributing factor as well.

Taken together, these analyses of Singapore’s export basket suggest that the city-state will have to build up new capabilities to diversify and acquire comparative advantage in new areas in its next phase of growth and development. The challenge to develop these capabilities will become more acute with time, as large emerging markets such as China and India are likely to provide stiff competition for smaller economies like Singapore in world export markets in the future. Within this context, the second part of this presentation will focus on the constraints that may impede Singapore’s growth and development, and as well as the policy options available to the country.

Constraints

Size and Population

As a small, open, city-state economy that is highly dependent on world trade, Singapore is perennially vulnerable to the impact of external shocks and events taking place in markets abroad. Due to its size and openness, Singapore would be vulnerable to market volatility if

there was too much specialisation found in its economy. This may have contributed to the fact that Singapore has not fully reaped the economic benefits of agglomeration – i.e. the positive economies of scale and network effects (e.g. increasing returns to scale of knowledge spill-over) when firms of related industries are clustered together. Currently, the level of agglomeration in Singapore is still relatively sparse for a developed urban economy and it could be due to Singapore's need to utilise scarce land for other purposes such as defence and housing. Apart from physical size and land constraints, Singapore's growth could be constrained by its aging population and the need for immigration to augment the resident labour force shortfall.

Research Base and Local Capabilities

To develop new export capabilities and acquire comparative advantage in new areas, Singapore needs to have a strong research base. At present, the core of Singapore's research base may not reside, or is not grounded, within the network of local universities and research institutions. At the firm level, the Multinational Companies (MNCs) appear to dominate industries and the knowledge involved in the production of exports, relative to domestic firms. However, the quality of backward linkages (e.g. the contacts between domestic suppliers of intermediate inputs and their MNC clients) and the rate at which knowledge is transferred between MNCs and local firms remain unclear. In addition, the effect of MNCs on the capability development of local firms from the same sector is relatively unknown. To diversify its export basket through the development of new capabilities, Singapore must understand these linkages better and strengthen backward linkages.

Policy Options

Boost Productivity Growth

As mentioned previously, Singapore's overall productivity levels have dropped recently and output growth has been driven by the addition of more labour input. This suggests that Singapore would need to boost productivity growth at all levels of its economy – at the firm and sectoral levels. At the firm level, enhancing productivity levels would mean looking to develop determinants of productivity growth such as honing managerial talent, improving the quality of general labour and capital inputs, investments in information technology and research and development (R&D), embedding knowledge management processes such as 'learning by doing', and encouraging product innovation. At the sectoral level, elements external to the firm which would boost overall productivity include positive externalities such as productivity spillover due to agglomeration economies, the presence of healthy and fair competition, the establishment of proper regulatory standards (or in some areas, de-regulation), and the flexibility of input markets.

Venture into New Areas of Exports

To diversify its export basket and avoid an over-reliance on exporting electronics, Singapore needs to acquire need knowledge and find new niches in areas of manufacturing and services. These niches should ideally be subject to increasing returns to scale, have high income elasticity of demand and are produced under imperfect competition. To get a sense of what potential new areas or niches where Singapore could possibly venture into, Chart 10 shows a list of potential exports with the highest strategic values that might be worthy of consideration. In addition, Chart 10 also shows the 'distance', or the corresponding level of difficulty for a country to acquire comparative advantage in each export.

Chart 10: Potential Exports with the Highest Strategic Values in 2007

	Commodity Description	Leamer's Classification	PRODY	Strategic Value	RCA
"Nearby"	Phenoplasts	Chemicals	18,380	17,406	0.388
	Air pumps, vacuum pumps and air or gas compressors	Machinery	19,930	17,347	0.946
	Polyamides	Chemicals	24,246	16,521	0.885
	Chemical products and preparations, nes	Chemicals	22,738	16,110	0.726
	Inorganic esters, their salts and derivatives	Chemicals	20,600	16,017	0.040
	Pins, needles, etc, of iron, steel; metal fittings for clothing	Metal products	18,345	15,662	0.770
	Other chemical derivatives of cellulose; vulcanized fibre	Chemicals	25,845	14,879	0.096
	Machinery, accessories for type-setting, for printing blocks, etc	Machinery	24,641	14,820	0.353
	Photographic film, plates and paper (other than cinematograph film)	Machinery	25,859	14,751	0.389
	Organic chemicals, nes	Chemicals	24,709	14,624	0.513
"Middle"	Glazes, driers, putty etc	Chemicals	20,195	19,995	0.182
	Parts, nes of the machines falling within headings 7435 and 7436	Machinery	24,110	19,406	0.304
	Shaft, crank, bearing housing, pulley and pulley blocks, etc	Machinery	20,463	18,719	0.244
	Parts, nes of pumps and liquids elevators falling in heading 742	Machinery	22,827	18,591	0.476
	Abrasive power or grain, on a base of woven fabrics	Labor intensive	24,313	18,467	0.124
"Far Away"	Miscellaneous articles of plastic	Labor intensive	18,059	19,246	0.446
	Parts, nes of the machinery falling within heading 7442	Machinery	21,189	18,963	0.378
	Tube and pipes fittings, of iron or steel	Metal products	18,582	18,863	0.611
	Other parts and accessories, for vehicles of headings 722, 781-783	Machinery	20,358	18,818	0.075
	Harvesting and threshing machines; fodder presses, etc; parts nes	Machinery	20,640	18,789	0.019

Continue Developing Services

Even as Singapore develops capabilities to diversify its export basket, it should not neglect its services sector. At present, Singapore is a service economy (approximately 70% of GDP) with a large manufacturing sector (approximately 30% of GDP). Since the services sector makes up the bulk of Singapore's economy (see Charts 11 and 12), the government should set out clear normative goals that the country would like to achieve – e.g. for the tourism sector, would Singapore be going after the number of tourists or the volume of spending? Would Singapore be developing a theme park to cater to Asia's new middle class or would it be targeting the highest spending per tourist in the world? Likewise, is the development of the tourism sector intended to generate more employment for Singaporeans? Regardless, there would be a need to build up professional capabilities and accompanying infrastructure required to support these visions (e.g. hotel and resorts management school).

Chart 11: Composition of Singapore's Economy

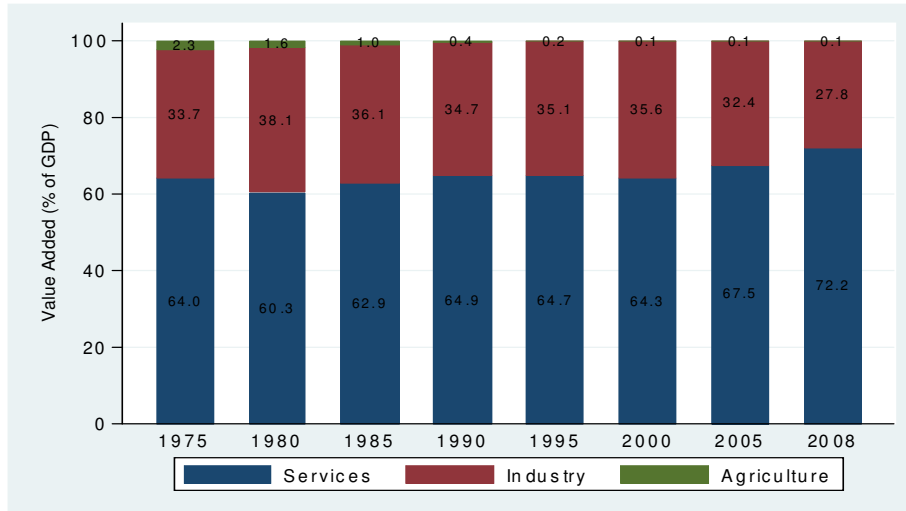
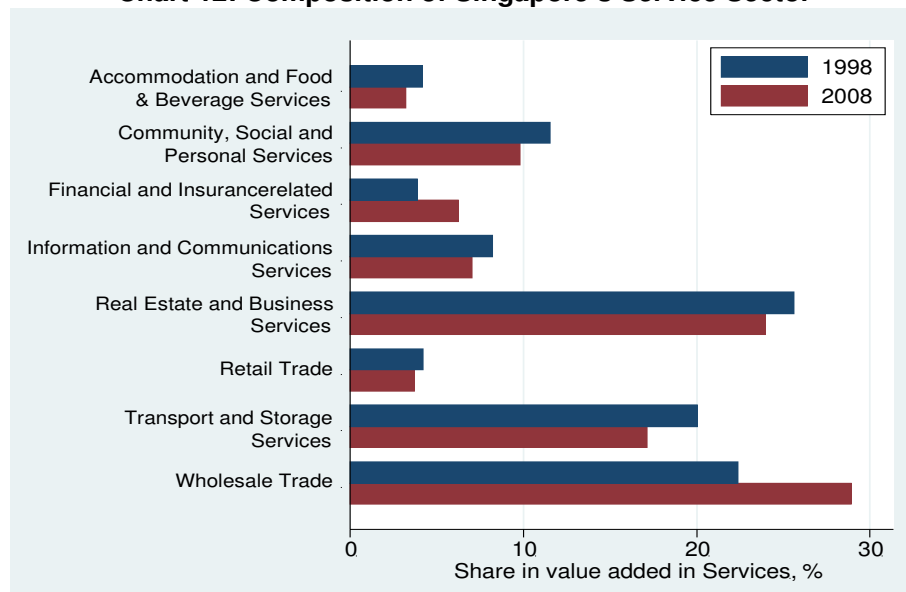


Chart 12: Composition of Singapore's Service Sector



Conclusion

The future of Singapore remains bright, given its stellar track record and the policies that the government has embraced to boost the growth and development. As shown in the first part of this presentation, the process of economic growth and development should be understood as a process of accumulating more complex sets of capabilities and of creating incentives for those capabilities to be accumulated and used. On this point, Singapore has done well to achieve a high level of sophistication in its export basket, on par with developed countries, although it still lags behind them in terms of export diversification.

Taking into account existing capabilities and constraints, Singapore would need to set clear

and meaningful policy objectives (GDP growth or full employment?) and be realistic about the new export areas or niches it can get into in the future. To venture into these new areas, Singapore has to gradually develop a broader set capabilities. Doing this will also raise the real wage rate for all workers. To ensure that these capabilities are developed, Singapore's industrial policy would have to successfully coordinate between firms and governments to build a 'competitive industry' through coordinated investments (where the rate of return is higher relative to individual investments). This coordination would facilitate the achievement of normative goals such as the effective delivery of public goods and services (resolve market failures and the efficient provision of water, education, energy, etc.), reduce income inequalities, and the achievement of full employment.

Industrial Policy, Capabilities and Growth: Where does the future of Singapore lie?

Q&A Session

(moderated by Manu Bhaskaran, Director and CEO of Centennial Asia Advisors, Singapore)

Question: There were three areas covered in the presentation that are applicable to Singapore, viz. the need for inclusiveness growth; its objectives; and the need to develop local capabilities. In particular, Singapore has developed its capabilities largely through the presence of Multinational Companies (MNCs). Is this strategy still relevant and should we complement it with a more intensive push to develop local capabilities?

Dr Jesus Felipe: Inclusive growth is growth that allows all people to participate in society. The best way to achieve this is through job participation. While Singapore does not have an unemployment problem, what happens in rest of Asia will affect Singapore. The key problem in China today is employment, i.e. the need to create jobs for people as more progress from countryside to cities. This is especially since the agriculture sector remains the largest employer in China, as well as in India and other developing countries. The view that solving the problem of unemployment is key to ending today's turmoil over currencies and trade was highlighted in Robert Skidelsky's commentary, "Joblessness the root of turmoil" (Straits Times, 21 Oct 2010 - *The referred article is attached for reference*). However, many governments tend to have concrete plans for growth, but not in achieving full employment. Working towards full employment needs to be a top priority for policy makers, in order to achieve inclusive growth.

With regard to MNCs, they remain important in creating jobs in Singapore. There is a concurrent need to grow local capabilities by building and developing human capital. Ultimately, countries need to create jobs for "people they have, not people they wish they had". This entails the creation of jobs that the average man can be employed to do, not high-end niche jobs.

Question: The services industry is also an important contributor to Singapore's economy. Is this captured in the Product Space concept?

Dr Jesus Felipe: Currently, the Product Space concept has not been applied to the services sector due to the lack of data, but can be easily applied once the relevant data is available. There however tends to be a high correlation between the production of sophisticated products and services in countries. The role of services in promoting growth is important, especially since Singapore holds capabilities in key services which other countries that need these services do not (e.g. port services, waste management and sanitary systems).

Joblessness the root of turmoil

By Robert Skidelsky



I HAVE become increasingly less hopeful about prospects for a rapid recovery from the global recession. Coordinated fiscal expansion (US\$5 trillion or S\$6.6 trillion) by the world's leading governments arrested the downward slide, but failed to produce a healthy rebound. The current frustration is summed up by The Economist's recent cover headline: 'Grow, dammit, grow.'

There are two reasons to be pessimistic. The first is the premature withdrawal of the 'stimulus' measures agreed upon by the Group of 20 in London in April last year. All the main countries are now committed to slashing their budget deficits.

The second is that nothing has been done to address the problem of current account imbalances. Indeed, the talk nowadays of currency wars leading to trade wars is reminiscent of the disastrous experience of the 1930s.

The problem of current account imbalances is closely linked to the existence of a world savings glut. One part of the world, led by China, earns more than it spends, whereas another part, notably the United States, spends more than it earns. Provided the surplus countries invest in the deficit countries, these imbalances pose no macroeconomic problem.

Indeed, this was the 19th-century pattern. A system of foreign investment, pivoting on London, channelled the savings of rich countries to poor countries. Despite many financial crises and defaults, this creditor-debtor relationship worked, on the whole, to the benefit of both sides. Rich-country investors earned a higher rate of return than they would at home, and poor-country recipients raised the development finance they needed. There was no persistent tendency to deflation.

The current system is superficially similar, but with one crucial difference: The flow of saving now goes from developing countries like China to rich countries like the US - from countries where capital is scarce to countries where it is abundant.

Unlike Britain in the 19th century, China does not view its surplus as an investment engine. It undertook reserve accumulation in the late 1990s as a form of self-insurance against capital flight. Reserve accumulation was also a by-product of China's deliberate currency undervaluation to promote export-led growth.

The result is that China and other East Asian countries own a large and growing stock of US Treasury bills. Through financial intermediation, these government securities helped finance the Western consumption and speculative boom that collapsed in 2008.

Cheap money in the West was the 'correct' Keynesian response to the flood of savings from the East. But because there were insufficient outlets for 'real' investment in countries that already had all the capital they could use, cheap money proved to be a dysfunctional way of dealing with the problem of excess savings.

The recession reinforced the pattern of poor countries lending to rich ones. With vigorous recovery in East Asia and stagnation in the West, global imbalances have grown. And as former US Federal Reserve chairman Alan Greenspan recently noted: 'US fixed capital investment has fallen far short of the level that history suggests should have occurred, given the dramatic surge in corporate profitability.' In short, we are heading full steam ahead into the next collapse.

There are two broad strategies for unravelling the linked problems of current account and saving-investment imbalances. The first is to weaken China's incentive to accumulate reserves.

In April last year, Mr Zhou Xiaochuan, governor of the People's Bank of China, proposed the creation of a 'super sovereign reserve currency' to remove the 'inherent risks' of credit-based national reserve currencies. This new currency, to be developed from the International Monetary Fund's (IMF) Special Drawing Rights (SDRs), would in time entirely replace national reserve currencies.

A 'substitution account', housed at the IMF, would enable countries to convert their existing reserve holdings into SDRs. The principle behind this is that collective insurance would be cheaper, and therefore less deflationary, than self-insurance. A reduced Chinese appetite for reserves would be reflected in an appreciation of its currency and a reduction in its trade surplus.

This far-sighted Chinese proposal never left the drawing board. Instead, the US has brought intense pressure to bear on China to revalue its currency, the yuan. The result is a war of words that could easily turn into something worse.

The US accuses China of undervaluing its currency, while China blames loose US monetary policy for flooding emerging markets with dollars. The US House of Representatives has passed a Bill to allow duties to be imposed on imports from countries, like China, that manipulate their currencies for trade advantage.

Meanwhile, the greenback's depreciation in anticipation of further quantitative easing has caused East Asian central banks to step up their purchases of dollars and impose controls on capital inflows, in order to prevent their currencies from appreciating. As Asian countries try to keep capital out, the West moves towards protectionism.

We can learn from the experience of the 1930s. A rising tide lifts all boats; a receding one ignites a Hobbesian war of each against all.

This brings us back to the premature withdrawal of fiscal stimulus. With aggregate demand depressed in the West, governments turn naturally to export markets. But all countries cannot simultaneously run trade surpluses. The attempt to do so is bound to lead to competitive currency depreciation and protectionism.

As Keynes wisely remarked: 'If nations can learn to provide themselves with full employment by their domestic policy... there would no longer be a pressing motive why one country need force its wares on another or repulse the offerings of its neighbour.' Trade between countries 'would cease to be what it is, namely a desperate expedient to maintain employment at home by forcing sales on foreign markets and restricting purchases'. It would become, instead, 'a willing... exchange of goods and services in conditions of mutual advantage'.

In other words, today's turmoil over currencies and trade is a direct result of the failure to solve the problem of unemployment in the West.

The writer, a member of the British House of Lords and Professor Emeritus of Political Economy at Warwick University, is the author of a prize-winning biography of John Maynard Keynes.