

HOW CAN SINGAPORE REMAIN COMPETITIVE IN A GLOBALIZING WORLD ECONOMY?

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Summary

This essay focuses on how the forces of globalization affect Singapore, and how Singapore can rise to the challenge. One central theme that runs through this paper is that the exchange of knowledge and the generation of new ideas will largely determine Singapore's competitiveness vis-à-vis other economies. Contrary to popular perception that physically encapsulated idea flows and cost competitiveness become increasingly important in a globalizing world economy, this paper argues that innovative ideas and entrepreneurial mindsets matter even more.

This essay proceeds to argue that Singapore must strive to become a leader, instead of a participant, in the global economy. In order to differentiate herself from the competition, Singapore should actively engage in innovative, entrepreneurial activities. Striking out into the unknown, concurrently, involves risks.

Central to nurturing entrepreneurs would, therefore, entail changing people's attitude towards risks as well as designing appropriate institutions and policies that manages risk as well as facilitate and promote entrepreneurship. More has probably been said about the importance of entrepreneurship than the means of how Singapore can achieve this. In particular, this paper shows how the consistent and careful application of financial concepts, modern information technology as well as institutional analysis can create an environment conducive to innovation activities, an environment vibrant with Joseph Schumpeter's "creative destruction".

1 Introduction

From an economic perspective, a globalizing world economy means that economies around the world are increasingly being integrated through trade, labor and financial flows. Major advances in technology have accelerated the speed and extent of globalization and we are being pushed along towards greater integration, more efficient markets, and generation of more advanced products that require greater economies of scale. Globalization allows economies to acquire the best practices available elsewhere, including knowledge on production methods, management techniques and economic policies—the essential technical know-how on how to compete in the world economy.

Proponents of globalization view this process as being beneficial and key to future world development, while detractors regard it with hostility, fearing that it increases inequality within and between nations, threatens employment and living standards and thwarts social progress. To be fair, the record has been mixed. Some economies are becoming integrated into the global economy more quickly than others. On the other hand, economies that have been able to integrate are seeing faster growth and reduced poverty—outward-oriented policies adopted by the East Asian Tigers certainly brought dynamism and greater prosperity to much of the region in the past few decades.

What emerges from this mixed picture is that while globalization offers extensive opportunities for economic growth, there is nothing natural nor irreversible in this process. The failure of the World Trade Organisation talks in Cancun last year shows how certain economies can withdraw from globalization, as they perceive it to be a threat. As such, Singapore must learn to properly tap the gains from this process, while remaining realistic about its potential and its risks.

2 Two Forms of Globalization

Conventional economic theory states that an economy's integration with the rest of the world affects her economic growth notably through specialization according to the principle of comparative advantage and the exploitation of increasing returns from larger markets. One popular perception is that Singapore must mostly focus on international trade and bringing in foreign direct investments in order to remain competitive.¹ The importance of this form of globalization—idea flows encapsulated in physical objects such as equipment and machinery—is reflected in the vast literature that focuses on the significant positive contribution of trade and foreign direct investment in explaining income differences between different economies.² Bradford De Long and Lawrence H. Summers regard technology embodied in machinery and equipment as the “lever of

¹ Such an investment-based strategy of imitating existing frontier technologies was definitely appropriate in the early stages of Singapore's economic development, when the economy was still far away from the world technological frontier. In general, an economy can generate economic growth through two channels—either through an investment-based strategy or innovating upon their own local technologies. Quite conceivably, Singapore's past strategy of engaging in imitation activities instead of innovation activities to catch up with the other developed economies would be a cheaper and easier option. Consequently, the importance of innovation for growth increases naturally when Singapore converged towards the world technological frontier in the 1990s.

² For instance, David Coe and Elhanan Helpman (1995) single out international trade, in particular imports of machinery and equipment, as the main channel of R&D spillovers.

riches". More recently, Jeffrey Frankel and David Romer have established that trade has a quantitatively large and robust positive effect on the income level of an economy.³

While physically encapsulated forms of an economy's integration with the outside world are definitely an important phenomenon, the role of animate forms of idea flows—ideas that are free from any connection with a physical object—must not be underestimated. Such integration with the rest of the world affects an economy's growth by way of the exchange and cross-fertilization of ideas and thoughts between people. A key characteristic of ideas is that they are non-rivalrous in that they can be used at any scale of production after being produced only once. Karl Shell as well as William Nordhaus have long recognized that the non-rivalry of knowledge implies that an economy's aggregate production function is characterized by increasing returns to scale, and this in turn, means that an economy is more productive and competitive as a result. This exchange of knowledge, technical know-how, and ideas between people are the forces that are driving the global economy forward.

In this domain of animate forms of idea flows, Singapore has been relatively successful in attracting foreign talent for their ideas, skills and expertise not found in the economy, with foreigners forming almost a quarter of the total population. Although some critics question the quality of these foreign imports, as seen by the exits of high-profile foreign talent from Singapore, such as Barry Waite of Chartered Semiconductor Manufacturing, Tom Kloet of the Singapore Exchange, Flemming Jacobs of Neptune Orient Lines, and Jan Poulsen of the national soccer team, they should also know that the government has committed towards tightening the criteria for skilled workers and professionals as well as raising the quality of foreign talent that help Singapore compete for global investments.

Having said that, Singapore should also actively partake in the other half of such an exchange—local talent should be more adventurous and ambitious about venturing overseas, as these Singaporeans will have the opportunity to gain exposure to new ideas and acquire the best practices available elsewhere. In relation to this, Minister for Trade and Industry George Yeo said at the International Enterprise Forum 2004 that Singapore needs "our own creative minds to match those who are attracted here", and suggested Singapore should alter its social climate so that those who do well overseas are admired while those who prefer to stay home all the time are suspect.⁴ Such a concentration of talent, both foreign and domestic, will be critical in generating synergies that drive the Singapore economy forward.

³ Jeffrey Frankel and David Romer (1999) established that trade raises an economy's income level. The relationship between the geographic component of trade and income suggests that a rise of one percentage point in the ratio of trade to GDP increases income per person by at least one-half percent.

⁴ Some perceive this to be a radical idea, as this sounds to be different from the "stayers and quitters" concept expressed by Prime Minister Goh Chok Tong in 2002 National Day Rally Speech. This perceived difference diminishes once the context of each speech is carefully taken into account.

3 Globalization and Cost Competitiveness

Although it is easy to see that Singapore has been an active participant and beneficiary of both forms of globalization in the past few decades, such as through attracting large amounts of foreign direct investment as well as skilled foreign talent, it is less clear that Singapore can maintain such a role in the light of emerging competitors such as China and India. One important aspect of globalization is the trend of companies relocating their operations to other economies in search of cheaper pools of labor and lower-cost facilities. Such a trend has benefited Singapore's economic development in the past, and will now threaten Singapore's economy in the future. In the manufacturing sector, twenty-two million jobs in twenty large economies had disappeared between 1995 and 2002. Cost considerations have prompted many low-wage electronics companies, including disk-drive makers, to move their operations to countries such as Indonesia, Malaysia, and Thailand. One estimate is that two million jobs would be created in lower-cost locations like India and China over the next five years.

To be sure, Singapore has made some headway in terms of cost competitiveness. The 2002 Budget saw the reduction in Singapore's corporate tax rate from 24.5% to 20% in the next few years, and this measure is estimated to save businesses S\$700 million a year. Personal income taxes are also set to be lowered to 20% over the same period. In the manufacturing sector, the total annual pay of Singaporean workers have only risen by 1% in the last two years as compared to 20% in nine other Asian countries.

At the same time, companies should not be too intent on cost reduction solely through cutting jobs and wages, as this can adversely impact on businesses. A survey by Towers Perrin, a global human resource consultancy firm, found companies in Singapore too eager to slash costs by cutting jobs and salaries, and warned that cost-cutting generally "disengaged" employees and could result in top performers leaving for greener pastures when job markets improved. In the chemical industry, the government has recognized that land and utilities are major cost components, and has committed to reducing prices of industrial land such that sufficient land is made available to investors at internationally competitive prices. The "perverse" land pricing policy which, as former civil servant Ngiam Tong Dow noted in his speech to the Economic Society of Singapore (ESS) this January, valued all land in Singapore "with Raffles Place land as the benchmark," probably warrants a closer look in other sectors of the economy as well.

Analyzing an economy's competitiveness solely from the perspective of cost considerations, however, assumes that Singapore should continue competing in the same space of goods and services as other economies. This is an unconvincing proposition, as this does not add any real competitive edge to Singapore's economy. Just as maximizing a portfolio's return is not about risk minimization, maintaining an economy's competitiveness is not an exercise in cost minimization.⁵

⁵ Maximizing a portfolio's return is often mistaken to be about risk minimization. Similarly, maximizing an economy's competitiveness is often mistaken to be simply about cost minimization.

4 Innovation Is The Key

It is time, therefore, for Singapore to pursue a more risky and more challenging proposition—becoming a leader in global economy through generating new ideas, the physical manifestations of these ideas being novel products and services for the global economy. Besides embracing the process of globalization and riding on the waves when the global economy picks up, Singapore must think of ways to shape the global economy. This translates into a desire to explore new, unknown territory and charting the way forward ahead of other economies. As expressed by Minister for Trade and Industry George Yeo at the International Enterprise Forum 2004, Singapore “needs entrepreneurs who are able to discern early, changing patterns in the global economy, recognizing new threats and opportunities, and respond in new ways to them.” For instance, entrepreneurs can think of means of exploiting the opportunities in the education, health-care and tourism services created by the demands of the growing middle class in Asia.

Unable to compete on cost considerations alone, Singapore has begun to move up the value chain and offer high value-added services. In the financial sector last year, Singapore managed to attract major financial institutions to relocate their higher-end middle and back-office operations here because she was able to offer high value-added services. This is, however, not sufficient as Singapore has to stay ahead of the competition, and not just keeping up with the competition. Instead of merely moving up the value chain, Singapore must push at the boundaries of the value chain and create new value chains. Dr Laszlo Orban, principal investigator in reproductive genomics at the Temasek Life Sciences Laboratory, said that in their collaboration with ornamental fish specialist Qian Hu Corporation, “One way to remain ahead in the race is to do it better than others, and win on quality rather than cost.” In essence, Singapore must actively engage in innovation—the creation of new value chains—in order to remain competitive in a globalizing world economy.⁶

The importance of people engaging in innovation activities is clearly expounded by Senior Minister Lee Kuan Yew. During the 2003 Global Brand Forum, SM Lee said that he has missed one thing in building Singapore’s system—the vital role of mavericks in helping a society forge new ways forward. SM Lee said that at the end of the day, a society needs both team players and those who can think “out of the box”:-

“I didn’t know this when I started, I know this now—you need both. Your workforce must have the cohesiveness, but to make the big leap forward, you need your mavericks, your geniuses, your people who can think outside the box and say: ‘I can do it better, simpler’.”

To illustrate his point, SM Lee used a simple comparison between Japan and the United States. While Japan excelled in teamwork, it could not match the Americans “for sheer innovation”. SM Lee expressed that it is this innovative spirit that is drawing talent

⁶ Economic historians such as Alexander Gerschenkron (1952) and Moses Abramovitz (1986) have long argued that relatively backward economies can rapidly catch up with more advanced economies by rapidly adopting frontier technologies and through heavy investments—an investment-based strategy. More recently, endogenous growth theorists such as Phillipe Aghion (2002) argue that as an economy approaches the world technological frontier, an innovation-based strategy becomes more important.

around the world to the United States and is the reason why New York city is enjoying a “golden age”.

5 Building Singapore’s “Golden Age” Involves Risks

Making such a “big leap forward” is not without risk. Some skeptics have pointed out that the fast economic transformation that Singapore experienced have left the younger generation of Singaporeans soft and comfortable in their existing states, unwilling to venture into the unknown and taking on such risks. The “blessing” of enjoying rapid economic development in the past few decades might have subsequently triggered a “curse” in making Singaporeans more risk-adverse in their current undertakings. Yet, we see that Hong Kong is a vibrant economy, which had also undergone rapid economic development, abound with the spirit of entrepreneurship.

Central to nurturing and convincing people to engage in innovation activities would, therefore, entail highlighting the risks that Singapore faces in the globalizing world economy, as well as creating institutions and policies that help to manage the risks, facilitate and promote such undertakings. In this respect, the world of finance has much to offer.

6 Changing Risk-Adverse Mindsets

A particularly insightful lesson from behavioral finance is that psychological framing matters enormously for risk management. Framing, as used by psychologists Daniel Kahneman and Amos Tversky refers to well-documented patterns of human reactions to the context, reference points, mental categories, and associations that influence how people make decisions. Kahneman and Tversky termed this concept “Prospect Theory”. One of the most striking findings of this Nobel Prize winning theory is the asymmetry between the way people make decisions involving gains and losses—that people display risk-aversion when offered a choice in one setting and then turn into risk-seekers offered the same choice in a different setting.

A quick illustration of this key finding in Prospect Theory: Where significant sums are involved, most people will reject a fair gamble in favor of a certain gain—\$1 million certain is preferable to a 60% chance of getting \$2 million. Even though the risky choice has a higher mathematical expectation—\$1.2 million—most people would choose the \$1 million certain. In other words, people are risk adverse. However, when people are offered a choice between taking the risk of a 60% chance of losing \$2 million versus losing \$1 million certain, most people would choose the gamble, even though its mathematical expectation of a loss of \$1.2 million is higher than the certain loss of \$1 million. When the choice involves losses, people are risk-seekers, and are not risk-adverse.

Exactly how can Prospect Theory be applied towards making the Singapore economy more competitive? The idea, of course, is not to spread the message that the economy is on the verge of collapse, nor that the erosion of Singapore’s competitiveness is inevitable. Clearly, this is not accurate and would only cause widespread panic among the population. Rather, the thrust should be that Singaporeans should not assume that the

strong economic growth in the previous decades would extrapolate into the future. In addition, the possibility of Singapore falling behind the globalizing world economy should not be discounted. Through painting these different pathways that the Singapore economy can take, Singaporeans are made aware of the risks in this globalizing world economy. Such meaningful framing can help bring about a fundamental change in the mindset of Singaporeans, and encourage more risk-seeking behavior.

Such a portrayal, at first sight, may seem uninteresting since the recent downturn in the Singapore economy is still fresh and salient in people's minds. However, such prudence and cautiousness might be lost when the global and local economy picks up further. After all, market memory is short and excessive optimism may rule over reason at times.⁷ Moreover, the upturn in the local economy might be brought about more due to an upturn in the global economy rather than Singapore gaining a real competitive edge. What is needed, therefore, is a consistent and meaningful framing of issues to help Singaporeans overcome risk aversion.

7 Risk Management Institutions and Policies

Even so, an individual that has the intention of pursuing risky opportunities might feel constrained if the environment surrounding this entrepreneur is not conducive or supportive of such behavior. At this junction, this is where the creation of institutions and policies that help to manage the risks involved in such undertakings fits in. Modern financial arrangements can assist in limiting the inhibitions that fear of failure places on our actions and do this in such a way that moral hazard—a situation whereby people engage in destructive rather than productive activities, such as spurious work targeted at impressing investors, or accounting gimmicks that artificially spruces up a company's financial statements—is minimized.

The high costs or the high risk of failure might discourage an entrepreneur from starting a new line of business. Financial arrangements using modern information technology can help solve this problem. For instance, this entrepreneur can find venture capitalists or international financial investors that will agree to bear the risks, paying the entrepreneur a salary pegged to some industry benchmark yet providing the entrepreneur some incentive for inspired works through having profit-sharing arrangements, such as offering shares if the company outperforms a certain benchmark.⁸ The risk that might have prevented from the entrepreneur from ever starting the business seems to disappear. In reality, the risk does not disappear, but its effects are virtually negated as the risks to this entrepreneur's business are blended into large portfolios where they are diversified away. The entrepreneur is now protected, at almost no cost to anyone, and can materialize a novel business idea without fear. Hence such elaborate financial contracts can serve to foster individual creativity and achievement.

⁷ Robert Shiller (2000) shows how irrational exuberance contributed to the high-tech bubble in the late 1990s.

⁸ Such an arrangement is different from the usual debt or equity financing because the entrepreneur enjoys the benefit of insurance.

This essential wisdom of finance and its principle of diversification should not be lost on the private and public sector. Instead of merely providing seed money to these entrepreneurs at the start-up stage or emphasizing the significant monetary rewards associated with a successful venture, more can be done to provide such a comprehensive financial arrangement whereby the entrepreneur is protected from the risks involved and yet have a long-term incentive for inspired works through contingent payments. Government bodies and financial institutions may want to further explore and develop financial instruments that increase our ability to manage risks that are now regarded as “non-diversifiable”, such as risks to the value of our jobs and our homes, to the vitality of our communities, and to the very stability of national economies. In particular, Robert Shiller’s idea of creating a new risk management infrastructure, presented in his latest book *The New Financial Order: Risk In The 21st Century*, merits more attention by both the public and private sector. The government has a natural role in risk management because long-term risk management requires the stability of law and because most individuals have limited ability in constructing appropriate long-term risk contracts.

8 Institutions and Policies That Promote Entrepreneurship

Another important way in which the government can encourage innovation is through creating appropriate and effective institutions and policies that can help entrepreneurs flourish. Vietnam’s Enterprise Law, implemented in January 2000, is an excellent example of how institutional reform can have a very positive impact on the development of the new enterprises, both in terms of establishing relatively clear regulations as well as demonstrating the government’s positive view towards the role of the private sector. Central to the Enterprise Law reform was the replacement of case-by-case, discretionary approval of new enterprises with streamlined registration procedures. The Enterprise Law made the formation of new enterprises easier, faster and cheaper—it removed 160 licenses, reduced the time for setting up a new enterprise from 98 to about 7 days, and also reduced the average cost of creating an enterprise from S\$545 to a range between S\$22 to S\$56. In addition, the law allowed for a broader scope of business activity per license and relaxed certain capital requirements.

Not surprising then, the impact of this Enterprise Law has been quite remarkable: By the end of 2001, 32,000 new enterprises had been set up as compared to 30,000 in the preceding 9 years! According to the General Statistical Office in Vietnam, there were over 81,000 new enterprises by the end of 2002. Such a significant development that emphasizes Joseph Schumpeter’s “creative destruction,” have helped propel Vietnam into being the second fastest growing economy in Asia in 2003, and is forecasted to maintain this position in 2004. Some have attributed the success of this institutional reform to the transparent and participatory process of making the law, as users of this law—the business community—were widely consulted on the draft. The remarkable success in encouraging entrepreneurship in Vietnam is worth a closer look by policymakers in Singapore.

Another clear example of how government policy can be designed to stimulate creativity and entrepreneurship would be intellectual property law—patents and copyrights. Patents are particularly useful in promoting creativity when innovation involves high costs for the innovator and low adoption costs for others. While patent law

was formerly based on a rather narrow definition of creativity, usually the kind embodied in the invention of physical devices or industrial processes, patent law, in recent years, has widened enormously with the acceptance of business-method patents—that is, patents not based on a tangible invention but on a process or way of doing business. Business-method patents are considered part of a larger family of patents known as utility patents that protect inventions, chemical formulae and other discoveries. The key difference here is that while previous patentable inventions were produced in scientific or industrial laboratories, business-method patents can now motivate and reward creative individuals at all levels in different settings within an organization.

Looking globally, over a thousand business-method patents a year were awarded in 1999 and 2000 in the United States, with countries such as Australia, Japan and South Korea following this development in intellectual property rights closely. In Singapore, the Intellectual Property of Singapore (IPOS) is beginning to recognize the value of such “intangibles”. Through organizing a forum titled “Assessing the value of your intangibles” earlier this year, the IPOS seeks to generate greater awareness of how intangible assets, which include patents, trademarks, copyright, trade secrets and industrial know-how, are rapidly becoming a core source of wealth creation in many sectors of the economy. The next logical step, therefore, for IPOS might be to carefully retrace and recognize the intangible processes that crystallize into such intangible assets. If correct patent policies are judiciously adopted, business-method patents have enormous potential in boosting creativity and entrepreneurship in Singapore.

9 Conclusions

Despite enjoying the benefits of being an active participant of globalization in the past, Singapore must now re-think her strategy in light of lower-cost competitors entering and integrating further into the global economy. Just as maximizing a portfolio’s return is not about risk minimization, maintaining Singapore’s competitiveness is similarly not about cost minimization. As such, Singapore must strive to a leader in the global economy, staying ahead of the competition through forging new ways forward. This means that Singapore should actively engage in innovation activities—the creation of new value chains—in order to differentiate herself from the competition. At the same time, striking out into the unknown is clearly not without risk.

Central to nurturing people to engage in innovation activities would, therefore, entail highlighting the risks that Singapore faces in the globalizing world economy, as well as designing modern, innovative institutions and policies that help to manage the risks of such undertakings. In addition, institutions and policies that promote the development of new enterprises should be adopted judiciously. As discussed earlier, the exchange of knowledge and the generation of new ideas by people—foreign and local talent, from both the public and private sector—will play a large part in determining Singapore’s competitiveness vis-à-vis other economies.

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