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*“How can Singapore remain Competitive in a Globalising World
Economy ?”*

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Executive Summary

The inexorable process of globalisation, first observed in the early 20th century, has accelerated in recent years. This process has also expanded to include more production processes and countries. As the world becomes increasingly integrated and new competitors enter the global economy, nations and individual firms will experience fiercer competition.

Thus, this essay highlights the necessary strategies required to create globally competitive indigenous firms, using Michael E. Porter's diamond as an analytical framework. It will also focus on policies that encourage domestic firms to venture and succeed abroad. In addition to fostering entrepreneurship, this essay proposes that Singapore seize the opportunities created by globalisation through cross-border contiguous development within the region; and by positioning herself as strategic node within global production processes. Lastly, measures maintaining cost-competitiveness will be examined and suggested.

1. Competition In A Globalising World Economy

A new paradigm has replaced the economic guiding principles of the past. Globalisation has been initiated by decreasing costs of logistics and rapid improvements in information and communication technologies (ICT). This has allowed firms not only to access a global audience for its products, but also to transcend national borders in their production processes¹ and hence, supply chains that span the globe have become the business mainstream. The division of labour, first observed centuries ago by Adam Smith, has finally gone global!

However, the process of globalisation is far from complete. As low-cost competitors further encroach on domestic markets, competitive pressures will further force firms to internationalize and globalise their operations mainly through two mechanisms: to pursue cost efficiencies and to discover new markets. With such a strong economic rationale, this trend of a globalising world economy is likely to accelerate² despite disruptive elements such as terrorism and SARs.

With globalisation, competition will increase on a microeconomic level as firms are forced to compete against global rivals in previously protected

¹ William Mougayar “*Small Screen, Smaller World*” <<http://yaleglobal.yale.edu/about/history.jsp>> points out that a typical television set has its components made in at least six countries.

² Between 1980 and 2002, global FDI rose by a factor of ten. (The Straits Times: August 27, 2003, “Globalisation leads to tenfold surge in FDI stock”)

markets. At a macroeconomic level, countries will be competing against new entrants for foreign direct investment (FDI)³.

In such an economic climate, Singapore will face tough competition in maintaining its traditional comparative manufacturing advantage. Already, structural unemployment⁴ has occurred with the concurrent rise of China and India⁵ and survival requires a reorganization of Singapore's economy along the lines of innovation and entrepreneurship.

Although the integration of the world economy threatens Singaporeans with substantial job uncertainty, it also brings in its wake opportunities: ability to transcend our physical limitations of land size, population and natural resources to become a regional hub. It is with this opportunity in mind that we shall examine the possibilities raised and strategies to be adopted by Singapore in this new millennium. These strategies will form the core of Singapore's future competitive advantages and the fundamentals of its prosperity.

2. Strategy, the diamond, and Singapore in the 21st century

Horace, the poet once wrote, "if one does not know to which port one is sailing, no wind is favourable". With this precept, the government should set a general direction as well as facilitate private sector efforts in moving towards the destination.

³ From 1985 to 2001, ASEAN's FDI inflows as a percentage of Asia's total FDI inflow fell from approximately 43% to 13%. (ERC Report: 35, Chart 2.2)

⁴ Unemployment reached 5.4% in 2003, the highest since 1987. (Singapore Department of Statistics, *Unemployment Rate*)

⁵ From 1978 to 2001, China exports have grown by US\$256 billion. (ERC Report: 33)

Thus, the recommended strategy will involve maintaining cost competitiveness as well as developing higher order competitive advantages⁶ based on productivity, innovation and differentiation. This is essential, for Singapore cannot compete as a low-cost producer. The long-term objective is to evolve from an investment-driven economy into an innovation-driven one⁷.

Michael E. Porter's diamond⁸ will be used as a framework for discussing Singapore's development of domestic companies that have the capability to compete globally. This involves improving the national business environment which include factor conditions, demand conditions, presence of related and supporting industries, firm strategy and rivalry. The mutual interaction and reinforcement between these factors are necessary for organic growth and national competitive advantage.

The globalising world economy has caused the diminution of national borders in production processes, Singapore should capitalise on this development by exploiting her geographical connectivity and centrality. This will involve positioning Singapore as a research and development (R&D) hub as well as a regional business centre. Singapore should also expand on

⁶ Global Competitiveness Report 2003-2004 indicates that Singapore's *Nature of Competitive Advantage* is 16th, which is low relative to our performance in other areas.

⁷ For conceptual distinction between investment-driven and innovation-driven economy, refer to Michael E. Porter, "*Competitive Advantage of Nations*". (Free Press, 1998)

⁸ Michael E. Porter (1998). See Appendix 1.

her strategy of complementary business areas⁹ to circumvent intrinsic physical constraints and create synergies with her neighbours.

Lastly, Singapore has to reduce operational costs and to alleviate land and skilled labour shortages. She has to maintain cost-competitiveness in addition to developing sustainable competitive advantages.

3. From Domestic Firms To Global Competitors

Without globally competitive Singaporean firms, our economic upside potential will always be capped. This is because multi-national corporations (MNCs) locate value-added R&D activities to where there is an appropriate market size and demand conditions, which are important criterion for innovation¹⁰. Other production processes are located based on cost considerations. Thus, government efforts should be directed towards creating a business environment where domestic firms can arise and innovate.

Systemic upgrading of demand conditions of the public and private sector will result in more innovative and higher quality products. Hence, government procurement of private sector goods and services should be aligned with international demand and stringent product specifications

⁹ 1980, Singapore's government proposed a sub-regional economic cooperation zone involving Johor Bahru, Riau islands, and the southernmost states of West Malaysia.

¹⁰ Michael E. Porter (1998).

utilised¹¹. Furthermore, it cannot limit its options to current offerings or vendors with a track record. Thus, The Enterprise Challenge¹² (TEC) is one way to catalyse the rate of indigenous innovation and the concept should be extended to other purchases.

Domestic competition¹³ is also an integral component in the development of competitive domestic firms. Singaporean leaders should not focus on short-term cost advantages from economies of scale but rather, be committed to the idea that competition brings long-term dynamism. Such dynamism delivers greater cost-savings through rapid product and process innovation¹⁴. Hence, not merging the MRT lines of the two local operators in view of 'efficiency' sets the right precedent. Perhaps in time, these two competitors or spin-offs from the industry can compete internationally.

Our government should also utilise multiple vendors to promote domestic rivalry. Sheltering domestic firms erodes our competitive strengths in the long-term and hence, the government should encourage competition by preventing selected mergers, avoiding protectionism and welcoming selected competitors from abroad to inject rivalry into certain industries.

With regards to factor conditions, our education system has to be adjusted such that risk-taking and creativity are emphasized. As the fuel for innovation, the cultivation of these skill sets is crucial to our economic

¹¹ Global Competitiveness Report 2003-2004 indicates that this has always been Singapore's forte with Singapore ranked 1st in 2002 and 2003 for *Government Procurement of Advanced Technology Product*.

¹² Launched in March 2000, TEC supports and funds innovative proposals that significantly improves the delivery of public services.

¹³ Global Competitiveness Report 2003-2004 ranks Singapore 20th for *Intensity of Local Competition*

¹⁴ Since Singtel's monopoly ended, prices for telecommunications services have plummeted.

development. Re-training and continual education should become part of our society's learning culture and increased subsidies to local educational institutes offering such programs should be implemented. These will increase the quality and productivity of our human capital, which is Singapore's core competency.

However, there is still a limit to productivity gains. Singapore's population size and our ageing demographics¹⁵ further exacerbate this limitation. With globalization and increased mobility of professionals, Singapore has the opportunity to attract foreign talent to supplement the indigenous workforce. Visa processing should be streamlined and expedited. Foreign entrepreneurs and executives should be given flexibility in bringing in their core support teams and families. Lower direct taxes will contribute to increased work and investment motivation in addition to increasing Singapore's allure to immigrants.

The final component in the diamond, related and supporting industries, plays a pivotal role in developing world-class Singaporean companies. This involves creating clusters where world-class buyers and suppliers of an industry congregate alongside related industries. Such clusters are indispensable to reinforcing an existing competitive advantage and in fostering competitive innovation¹⁶. Computing in Silicon Valley, pharmaceuticals in Ireland and finance in Manhattan are notable examples of such organization of economic space.

¹⁵ Singapore's median age rose from 24 in 1980 to 34 in 2000. (Singapore Department of Statistics, *Median Age of population*)

¹⁶ Michael E. Porter (1998). See Appendix 2.

As our domestic industries are under-developed, Singapore can capitalise on MNCs to seed a cluster. Having several MNCs of the same industry competing here will result in spillover rivalry that stimulates the development of supporting and related industries. As entrepreneurship is key to our competitive strategy, we must set aside areas for training centres, start-up incubators, research institutes, venture capital firms and specialized infrastructure to converge on. This will provide our entrepreneurs with rapid access to resources needed in global and domestic expansion.

Our government should also exercise flexibility and allow private sector development of industry clusters. These clusters will not always coincide with ‘high-technology’ industries like biotechnology and nanotechnology. However, to develop our own competitive advantage, the government has to allow the private sector to interpret market signals and allocate scarce resources according to demand and factor conditions. Singapore’s shipbuilding industry is a pertinent example of such a natural development.

In an innovation-driven economy, it is new processes and advanced technology that adds value to an economy¹⁷. This is independent of any industry and providing excessive concessions and subsidies to ‘new economy’ industries, such as nano- and bio- technology firms, runs the risk of misallocating resources relative to our competitive advantage. Rather, the government should aid in the development of clusters by influencing the *diamond* and allow the private sector to determine where our competitive advantage lies.

¹⁷ In Italy, competitive advantage is found in the shoe industry where innovative designs and production processes contribute to growth. (Michael E. Porter: 1998)

In addition to factors within the diamond, technical and cultural issues have to be addressed. To develop an entrepreneurial mindset, Singaporeans have to accept risk and be proactive in seeking opportunities. Schools will have to be re-engineered into havens of experimentation and innovation. Hence, teachers will have to become facilitators, especially where discussions are involved. Students have to be allowed to propose and initiate projects in their schools without excessive interference or restrictions from the administration. This will alleviate cynicism and inculcate a can-do spirit.

Technical issues such as regulations have to be reviewed and rationalised. The permit and license culture¹⁸ prevalent in Singapore has to give way to greater flexibility. Decision-making based on precedents will also have to be abrogated due to the nature of innovation - breaking new ground. Policy-makers have to accept the inherent chaos of such a system. With reduced limitations, artistic and entrepreneurial creativity will be allowed to flourish and contribute to Singapore becoming an innovation-driven economy¹⁹.

The conflux of these policies will provide the context for domestic industries and firms to arise and assume a niche in the global market. More direct measures must also be taken to encourage overseas expansion.

4. Ventures In Foreign Land

¹⁸ Global Competitiveness Report 2003-2004 ranks Singapore 27th in *Extent of Bureaucratic Red Tape*.

¹⁹ Richard Florida's "*Rise of The Creative Class*" (Basic Books, 2002) argues that attracting creative talent involves embracing diversity and its inherent chaos.

A globalising world economy translates into foreign competition on Singapore's soil. Similarly, indigenous firms should expand overseas. By enhancing their foreign competitive capabilities, Singapore supplements her economic bottomline with foreign income. Two approaches should be used in conjunction: one concentrating on economic incentives, the other involves developing a global mindset.

Overseas expansion is predicated on profitability. Thus, intensive domestic competition and market saturation will not only encourage better products but will also induce ventures abroad. Global expansion can be catalysed by introducing tax incentives such as ERC's recommendation of exempting foreign income sources for tax purposes²⁰. Free trade Agreements (FTAs), which reduce tariffs and other transaction costs, impacts profitability and hence, has to be further pursued²¹.

Singaporean firms also require knowledge of opportunities and business conditions. Thus, trade missions as well as alliances and exchanges between local and foreign business schools and associations should be encouraged with the government playing a leading role. Local knowledge²² reduces risk and uncertainty and thus facilitates market penetration. Government-linked corporations' (GLCs) can allow related domestic companies to venture abroad as partners. This reduces economic risks and will allow smaller firms to benefit from the branding and goodwill associated with the GLC.

²⁰ ERC Report: 83

²¹ United States and Japan are two countries that have concluded FTAs with Singapore recently.

²² Incidentally, HSBC's advertisements illustrates this point clearly with common cultural misunderstandings

Finally, we have to develop a global mindset. This can be achieved by sending students overseas on student exchange or study programs. Singaporeans should also be encouraged to work or travel abroad. Such overseas experience is efficacious in driving foreign expansion²³. In addition, the government has to provide them with the desire to return to Singapore and incorporate their companies locally. Thus, Singapore International Foundation (SIF) has to expand operations into more areas and to increase its activities.

Associations helping returning Singaporeans adjust back to our culture can be further funded to develop their capabilities. Most importantly, Singapore has to provide ample opportunities that appeal to the head and a cultural soul²⁴ that anchors the heart in order to prevent a brain drain.

5. Globalisation's Opportunities

As globalisation downplays the role of borders as barriers to economic activities, it creates opportunities to circumvent limited market size and paucity of resources.

Complementary business areas, which include southwest Malaysia and the Riau islands, can be further developed as partners and packaged as a single economic entity. Through contiguous development across borders, Singapore can create synergies by leveraging her partners' abundance of

²³ Swiss firms, whose founders have lived abroad, often set up a foreign subsidiary in the place where they lived as one of their first actions. (Michael E. Porter: 104)

²⁴ A city's *creativity index*, which includes diversity, tolerance and the arts, is highly correlated with number of *creative class* members in that city. (Richard Florida, 2002)

land, labour and resources while providing management skills and capital in return.

Singapore has to take the lead by increasing investment and developing infrastructure in these areas. Business laws and product standards have to be standardised across borders while non-tariff barriers should be reduced. As certain production processes will cross the borders of these areas, it is prudent to incorporate them into future FTAs using the Integrated Sourcing Initiative (ISI)²⁵ as a possible model.

Further integration and expansion will pave the way to create magnified markets that translates into greater efficiencies from economies of scale. As larger markets support more competitors, domestic rivalry will also be upgraded. Complementary business areas can be used to catalyse the development of free trade within ASEAN countries by providing a relevant example.

With globalisation, there is a marked tendency for certain global processes to converge and materialise on strategic sites²⁶. Singapore can exploit this phenomenon by positioning herself as a key node in the global network. This will involve branding as a business centre for managing regional operations, and as an R&D and financial services hub, thus utilizing Singapore's competitive advantages to overcome the intrinsic disadvantages of a small indigenous market.

²⁵ The core principle of ISI is that certain goods not made in Singapore can be deemed Singapore-originating if imported from Singapore. Batam and Bintan benefit from the ISI as their exports are exempt from Merchandise Processing Fees when entering the US.

²⁶ Saskia Sassen, *"The Global City"*. (Princeton University Press, 1992)

Due to Singapore's geographical centrality and high connectivity of our air and sea facilities²⁷, we can function as a regional business centre for corporations operating in Southeast Asia. Such MNCs will benefit from Singapore's advanced infrastructure and proximity to regional markets while local firms will profit from the transfer of transnational supply chain management and managerial skills.

For such a transformation to happen, a more proactive role in integrating ASEAN's fragmented markets must be taken. Fragmented markets add unnecessary costs²⁸ and hassles to regional operations and reduce the allure of the region as a competitor of China and India. Hence, the ASEAN secretariat has to be empowered and tariff reduction within the region has to be accelerated. Convergence of product standards and business law will also add to competitiveness. Without an attractive Southeast Asian market, Singapore cannot successfully re-invent herself as a regional business centre. Therefore, it is an imperative to push for greater regional integration.

To become a financial hub, Singapore's vibrant financial sector must be further internationalised. Singapore Management University (SMU) will play a vital role in executive education and in developing fund management expertise. With changes to Swiss banking laws²⁹, Singapore will have an opportunity to absorb an influx of European capital that will further raise our

²⁷ Changi Airport is connected to 151 cities in 51 countries while Singapore's port is the world's busiest in terms of shipping tonnage. (Ministry of Transport, *Key Facts and Figures*)

²⁸ Different product standards in different ASEAN countries add 10-15% in operating costs. Region wide prices for different items vary by an average of 31% vis-à-vis 5% in the EU. (The McKinsey Quarterly, 2004 Number 1, "Integrating Southeast Asia's economies".

²⁹ Switzerland agreed to repatriate income taxes of Europeans in June 2003 according to the EU Savings Tax Directive. (Forbes, September 2003. Justin Doebele. "Taking Shelter")

international profile as a financial hub. The challenge is safeguarding Singapore's scandal-free image while deregulating the industry in pursuit of greater flexibility and growth.

Singapore's scandal-free image will generate dividends for the domestic equities market. By branding local bourses as transparent and lower risk gateways to investing in Chinese firms, Singapore will be able to reap economies of scale from a larger and more prominent stock market. Thus, Singapore Exchange (SGX) should be further encouraged to court eligible Chinese firms for listings and to brand itself as an alternative route to riding China's growth.

Singapore can become an R&D hub by improving the rate of innovation and technology diffusion³⁰, with a focus on projects with commercial potential. By linking up businesses with research institutes and encouraging private sector funding, such projects will naturally be emphasized. Collaboration with regional research institutes must increase - with Singapore as the coordinator of such programs. In addition, as a regional business centre, Singapore will attract MNCs' R&D activities, as proximity to markets will allow regional demand conditions to be monitored. This can be reinforced by tax breaks.

To facilitate rapid diffusion of technology, the respective organizations or research institutes must be allowed to retain intellectual property (IP) generated from government funding. This will streamline the process of

³⁰ Global Competitiveness Report 2003-2004 ranks Singapore 10th in *Company Spending on R&D* and 5th in *Firm-Level Technology Absorption*.

commercialization and expedite IP entry into the marketplace. Tax incentives for IP-generating research will also provide greater fiscal motivation. R&D capabilities should be upgraded by attracting eligible foreign researchers through research scholarships and streamlined processes for visa or citizenship applications.

By drawing on regional resources and markets and positioning Singapore as the epicentre of strategic activities in the region, we can transcend physical boundaries and limitations, remain competitive and create growth prospects.

6. Remaining Cost-Competitive

Although developing a competitive advantage is an imperative, Singapore still has to maintain cost competitiveness. This will revolve around three components: taxes, wages and land.

Direct taxes inclusive of disguised costs (e.g. CPF) will have to be brought in line with global competitors³¹ as competition for both FDI and talent crosses national borders. A reduced income and profit tax will help pull talent and investment to Singapore. Goods and Services Tax (GST) will have to compensate for this loss of government revenue and appropriate relief measures and offset packages have to be introduced in the short term.

The underlying rationale regarding wages is to ensure productivity gains outstrip wage gains such that real wages do not have to fall. Concurrently, more flexibility has to be injected into the current system. Technology,

³¹ Singapore's ratio of tax burden of high-income to low-income earners is ahead of New York, London and Dublin and Sydney. (ERC Report: 81)

retraining and higher education will improve productivity while increasing the monthly variable component (MVC) of salaries will increase wage flexibility. Short-term hiring based on market demand should increase to enhance labour flexibility.

The realities of land constraints in Singapore require us to concentrate on attaining the best value from available space. This will involve constant farming out of low-value processes (e.g. basic manufacturing) to complementary business areas. Adjusting the land tenure system by introducing shorter leases will enable firms to better match their needs with short-term requirements. The feasibility of using public housing for more types of businesses should also be studied³². Increased flexibility from such policies will translate into cost-savings and higher profitability.

Such measures will prevent an exodus of companies due to high operating costs.

7. Conclusion

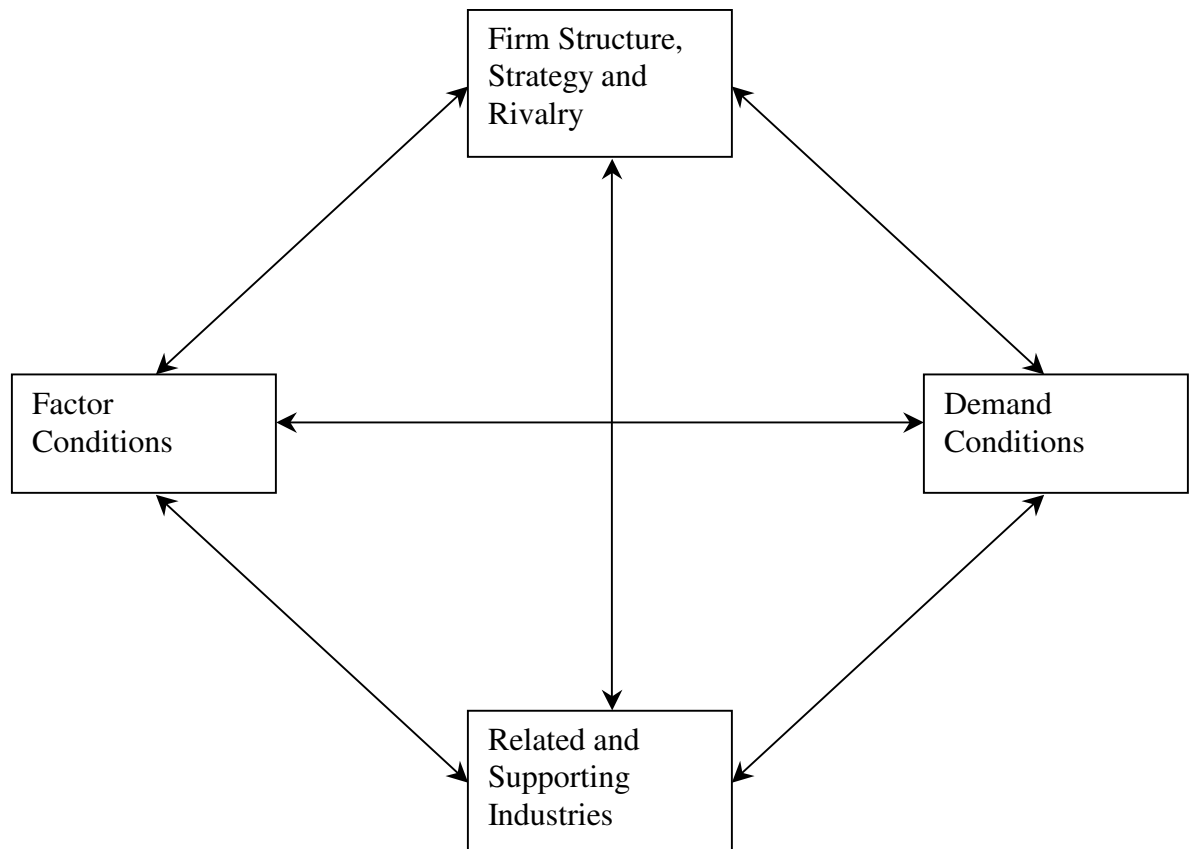
The globalising world economy and the corollary increase in competition imply that Singapore has to run faster simply to maintain its current position. This will necessitate changes to Singapore's business environment as Singapore strives to become an innovation-driven economy with her own unique competitive advantages.

³² Under HDB's Home Office Scheme, approximately 16 categories of businesses are explicitly prohibited. (HDB Infoweb: <http://www.hdb.gov.sg/isoa032p.nsf/infoweb?openframeset>)

Globalisation causes competitive stresses but it also creates opportunities for Singapore. Exploitation of cross-border contiguous development will allow Singapore to overcome physical limitations. Through such a process, Singapore can develop integrated and expanded complementary business areas and become a key node in the global network, thus creating synergies through complementation of comparative and competitive advantages.

Successful navigation of the seas of globalisation will enable Singapore not only to remain competitive, but will allow her to attain higher levels of economic achievement.

Appendix 1: Porter's Diamond of National Advantage



Michael E. Porter, author of *The Competitive Advantage of Nations* (Free Press, 1998), used a diamond-shaped diagram to illustrate the determinants of national advantage. The determinants in this system are interdependent (e.g. factor disadvantages will not result in innovation without rivalry) and

are self-reinforcing (e.g. specialized and better factors will only arise when there is intense rivalry).

Appendix 2: Clusters

“A cluster is a geographically proximate group of companies and associated institutions in a particular field, linked by commonalities and complementarities.”

Michael E. Porter. *On Competition*, page 199. (Harvard Business School Press, 1998)

Advantages of a cluster:

- Easy access to specialized suppliers, services and human resources
- Information spillovers
- Flexibility and fast change reactions due to extreme specialization
- Imitation facilitates faster innovation adoption

Source: Competitiveness website,

<http://www.competitiveness.com/nps/corporate/com/en/clusters/whatisacluster.pdf>

Bibliography

Richard Florida (1998), *The Rise of the Creative Class*, Basic Books

Klaus Schwab et al. (2004) *Global Competitiveness Report 2003-2004*, Oxford university Press

Murray A. Spiegel (2002) *Singapore Economy in the 21st Century: Issues and Strategies*, McGraw-Hill Companies

Michael E. Porter (1998), *The Competitive Advantage of Nations*, Free press

Michael E. Porter (1998), *On Competition*, Harvard Business School Press

Singapore Department of Statistics website, <http://www.singstat.gov.sg/>
ERC Report, http://www.mti.gov.sg/Public/ERC/frm_ERC_Default.asp?sid=108
The Mckinsey Quarterly, 2004 number 1, Integrating Southeast Asia's Economies,

<http://www.mckinsey.com/>

Competitiveness website, <http://www.competitiveness.com/nps/corporate/com/en/clusters>

Ministry of Transport website, <http://www.mot.gov.sg>

Saskia Sassen (1992), *The Global City*, Princeton University Press

Willam Mougayar, *Small Screen, Smaller World*,

<http://yaleglobal.yale.edu/about/history.jsp>

The Straits Times (August 27, 2003), *Globalisation leads to tenfold surge in FDI stock*,

Singapore Press Holdings

Justin Doebele (2003), *Taking Shelter*, Forbes Magazine (September 2003)