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Singapore's Productivity Challenge: Part II

"If we are to reduce our dependence on foreign workers without sacrificing high economic growth, we have no choice but to speed up the pace of automation and mechanization."
– Dr Tony Tan, former Minister for Finance and Trade and Industry, 1984 Annual Budget Statement.[1]

"Prior to the start of the economic restructuring policy, our economy was in a low-wage, low-productivity mode, with growth generated largely through labour force increases, mainly foreign workers."
– An Interim Report of the Deliberations of the Economic Committee, July 1985.[2]

"We have therefore been using a pool of foreign workers as a buffer to cope with business cycles and economic fluctuations. However, we must not lose sight of the social and economic costs of an increasing dependence on foreign workers."
– Dr Richard Hu, former Minister for Finance, 1988 Annual Budget Statement.[3]

"With an investment to GDP ratio already exceeding 40% and, by the early 1990s, a reasonably educated labor force, it is clear that Singapore will only be able to sustain further growth by reorienting its policies from factor accumulation toward the considerably more subtle issue of technological change."
– Alwyn Young, A Tale of Two Cities, 1992.[4]

[1] Parliament of Singapore, "Annual Budget Statement", March 2, 1984.
[2] Ministry of Trade and Industry, *Report of the Economic Committee - The Singapore Economy: New Directions* (Singapore National Printers, 1986), p219.
[3] Parliament of Singapore, "Annual Budget Statement", March 4, 1988.
[4] Alwyn Young, "Tale of Two Cities: Factor Accumulation and Technical Change in Hong Kong and Singapore", NBER Macroeconomics Annual 1992, Volume 7, p50.

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This case examines how Singapore's policy decisions for economic development in the past, while appropriate in their particular historical context, produced unintended consequences and knock-on effects that now limit the country's ongoing efforts to increase labour productivity in Singapore.

This case is divided into three parts. Each part is bookended by an economic crisis that Singapore faced or by the government committees convened to review economic policies in response to these crises.

- **Part 1**: From the 1961 Winsemius report to the 1985 recession.
- **Part 2**: From the 1986 Economic Committee report to the 1997 Asian Financial Crisis.
- **Part 3**: From the 2003 Economic Restructuring Committee Report to current efforts to raise labour productivity.

Overview of Part 1

Part 1 of this case covered the existential economic challenges facing Singapore even before the country gained independence in 1965, and highlighted the government's successful responses to this challenges, first by solving the severe unemployment problem through a rapid industrialisation process that relied on foreign capital and know-how, and then supporting continued, strong economic growth by upgrading the quality of its workforce; and second by supplementing and complementing the local workforce with foreign labour. Up till the 1985 recession—Singapore's first since independence—reining in the country's growing reliance on foreign labour was seen by the government as integral to industrial restructuring toward higher labour productivity. The 1985 recession interrupted these plans.

The 1985 recession

Although the 1970s saw a series of global economic shocks such as the 1973 oil crisis, the US stock market crash and secondary banking crisis, and the 1974 world trade recession; Singapore continued to grow strongly throughout the decade by aggressively pursuing foreign investments and holding down business costs (especially wage costs). Only once in that troubled decade did GDP growth even dip below 5% (in 1974, when GDP growth was 4.6%).[5] This gave the government the confidence to implement a 'wage shock therapy' in 1979 to force the pace of industrial upgrading and raise the wages of Singaporean workers. The government issued guidelines for large wage increases in 1979, 1980, and 1981, reasoning that a rapid increase in wages would force unproductive industries and companies to restructure or close down. This rapid increase in wages was also meant to compensate workers and the unions for their sacrifices during the previous decade of wage restraint.[6]

[5] Singapore Department of Statistics, "Gross Domestic Product at Current Market Prices", data.gov.sg (April 21, 2014). Also refer to **Appendix 1** in **Part 1.**

[6] See **Part 1**, p11.

Given the economy's credible performance in the 1970s and early 1980s (GDP growth averaged 8.5% from 1980 to 1984[7]), the government remained sanguine even in the first quarter of 1985 about how the year would turn out. The government recognised that 1985 would be "not as rosy" as 1984 and estimated that growth in 1985 would "likely to be lower than the 8.2% recorded in 1984".[8] The eventual 0.6% contraction in the economy would come as a severe shock.

In his 1985 budget speech, then-Minister for Finance Dr Tony Tan (now president) reminded the government to hold fast to economic restructuring in order to achieve a "high productivity and mature" economy, and not give in to the demands of businesses to bring in more foreign workers at a time of labour shortage:

> *"The solution to our labour shortage cannot be an indefinite and ever-growing dependence on foreign workers. The experience of countries, which have indiscriminately allowed large numbers of foreign workers to settle permanently, shows that this gives rise to social and political problems of such a magnitude as to threaten the cohesiveness and stability of their societies."*

Even before the recession, the government had convened a committee (eventually called the 'Economic Committee' or 'EC') to conduct an "in-depth mid-term" review of Singapore's economic development plan for the 1980s. This committee was to be headed by then-Minister of State for Defence and Trade and Industry BG Lee Hsien Loong (now prime minister).[9]

The formation of the EC proved to be fortuitous. After the recession hit, the committee expanded its responsibilities to include examining the causes of the recession and proposing strategies for economic recovery.

The EC identified a number of causes for the recession. Falling global demand for petroleum and crude oil had depressed petroleum prices and reduced demand for oil shipments. Lower demand for shipbuilding and ship repair impacted Singapore significantly as shipbuilding and repair accounted for 25% of the country's manufacturing sector. The concurrent slowdown in the US economy (a major trading partner) hurt Singapore's exports in computer peripherals and electronics. Falling commodity prices also affected Southeast Asian countries and reduced both regional trade and tourist arrivals to Singapore.[10]

Perhaps more importantly, the EC identified several domestic and policy-induced causes for the recession. Chief among them was Singapore's loss in competitiveness, attributed to a rise in business costs and wage rigidities that prevented businesses from adjusting quickly to market conditions. The boom years of 1980 to 1984 had also encouraged massive over-investment in property (the construction sector grew by an astounding 22% per year in that period), causing a

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[7] MTI, *New Directions*, p4.
[8] Parliament of Singapore, "Annual Budget Statement", March 8, 1985.
[9] Ibid.
[10] MTI, *New Directions*, p4.

property glut and construction slump in 1985 that knocked 2 percentage points off GDP growth.[11]

As Singapore was still reliant on foreign investments to get access to knowhow, new technologies, and markets[12], an important determinant of GDP growth was the country's competitiveness in comparison with other countries, especially the (then) Newly Industrialising Countries (NICs) of Taiwan, South Korea, and Hong Kong, which were also pursuing export-oriented industrialisation policies.

Tackling high wage costs

The EC's report focused on the high cost of wages as an important factor in high business costs. The report pointed out that total labour costs had risen 10.1% per year from 1979 to 1984 while productivity only grew an average of 4.6% per year over the same period, a trend that "[c]learly… cannot be sustained".[13] At the time they were issued, the rapid increases in wages recommended by the National Wages Council's (NWC[14]) guidelines from 1979 to 1982 were partly to compensate for a decade of wage discipline in the face of global economic uncertainties in the 1970s, and partly to force a more productive use of labour[15] (as unproductive uses of labour had been propped up by the decade of wage restraint). However, the EC now pinpointed the recent rapid wage increases as a main cause of high business costs, noting that unit labour costs in Singapore in USD terms had gone up by 40% since 1980, compared with only 10% in Taiwan, and "marginal" increases in both Hong Kong and South Korea.[16]

As an immediate remedy, the EC recommended a temporary 15-point cut in the employer's CPF[17] contributions from 25% to 10%, a move that would result in an immediate 12% savings on the wage bill for employers and narrowing the wage gap with the NICs back to 1982 levels.[18] In addition, the EC recommended that the unions return to "severe" wage restraint to prevent average wage costs from rising for at least two years[19] (mindful that cost savings from the reduction in employer's CPF contributions could be passed on to workers in the form of higher gross wages, even though the CPF cut did not affect employees' take home pay).

[11] Ibid, p34.
[12] Ibid, p17. The report asserts: "It is not so much the money they bring to Singapore which matters. Economic development in Singapore has never been constrained by lack of investible funds."
[13] Ibid, p226.
[14] See Part 1, p12.
[15] Garry Rodan, Singapore's 'second industrial revolution': State intervention and foreign investment, ASEAN-Australia Economic Papers No. 18, 1985, p17.
[16] MTI, *New Directions*, p228.
[17] CPF is an individualized, defined contribution pension fund that has restrictions to prohibit most types of withdrawals before retirement.
[18] MTI, *New Directions*, p52.
[19] Ibid, p8.

As a longer term solution, the EC recommended wage reforms to introduce variable wage components that employers could flexibly adjust as demand expanded or contracted.[20]

Foreign labour

As late as 1984, the government's stance was that the large pool of foreign workers in Singapore was temporary, and that less skilled foreign labour, *including* those from neighbouring Malaysia, would be phased out by 1991.[21]

By 1986, although the EC stated that "[A]s for foreign workers, more than half of the growth in our workforce in 1980-84 was accounted for by work permit holders. Such an inflow of foreign workers cannot continue indefinitely… Future economic growth will therefore depend on productivity increases and improvements in business efficiency"[22]; it also simultaneously suggested a more "realistic" stance to allow for a "revolving pool" of foreign workers on short term Work Permits, and that the government should shift away from an "administrative allocation" of foreign workers to a more "neutral pricing mechanism" that could allocate foreign labour to more productive uses.[23]

Other recommendations

The government intervened in a number of other ways to fight the recession. Being the country's largest employer, it took the lead in curbing wage inflation. The government also reined in statutory charges affecting businesses, increased depreciation allowance for capital expenditure in order to improve bottom lines for businesses, provided personal income tax rebates, and stimulated the economy through increased development expenditure on land reclamation, building the country's first subway system, roads, schools, and other infrastructure projects.[24]

Many other changes in future policies can in fact be traced back to the EC's recommendations, including reductions in and alignment between both corporate and personal income tax rates[25], the proposal to broaden the tax base through the introduction of indirect taxes on consumption[26], the simplification of the tax code[27], the promotion of services in addition to manufacturing as a

[20] Ibid, p8.
[21] "Singapore Removes Curbs on the Hiring Of Foreign Workers", The Wall Street Journal, January 16, 1984. See **Part 1** p13 for a discussion on the government's stance on foreign labour up to 1984.
[22] MTI, *New Directions*, p106.
[23] MTI, *New Directions*, p109.
[24] Parliament of Singapore, "Annual Budget Statement", March 7, 1986.
[25] MTI, *New Directions*, p89.
[26] Ibid.
[27] Ibid, p90.

pillar of the economy[28], government support for R&D[29] and information technology[30], and privatisations of government-owned enterprises.[31]

Box article: The global economic policy context

The reforms proposed by the EC were broadly aligned with the prevailing economic orthodoxy that was emerging in the developed world and which came to be known as 'market fundamentalism' or 'neoliberalism'. In the late 1990s, this was also described as the 'Washington Consensus' because the policy prescriptions of letting markets take over, privatisation, and market liberalisation and deregulation were often advanced by Washington, DC-based institutions such as the International Monetary Fund (IMF), World Bank, and the US Treasury Department.

The Washington Consensus was closely associated with supply-side economics—a school of macroeconomics that argued that economic growth was best supported by lowering the barriers for firms to produce (supply) goods and services as well as to invest. It shaped and influenced economic policies in a many countries and led to many economic reforms to reduce the 'interference' of government in the 'free market'. Supply-side economics in the form of government dismantling or reducing regulatory barriers, privatisation, and the reduction of direct taxes on businesses and individuals was passionately supported by US President Ronald Reagan and UK Prime Minister Margaret Thatcher throughout the 1980s.

In Singapore, as well as in many other parts of the world, the 1980s marked the beginning of drastic reductions in income tax rates, often done in the belief that lower taxes would reduce barriers for businesses, increase incentives for investment and work, and thereby stimulate economic growth. Singapore's corporate income tax, which stood at 40% in 1986, was cut to 33% after the EC submitted its report[32] (the report had in fact recommended it be cut even lower to 30%[33]). This was continually lowered over the years until it reached just 17% in 2010.[34]

According to the free market school of economics, the main determinant of wages was labour productivity. Wage increases could only be justified and sustained if there was an increase in productivity (because free markets cannot go wrong in determining the right 'value' of a job). That wage increases can only be supported by increases in productivity was a view that has been expressed numerous times by many government leaders in Singapore.[35]

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[28] Ibid, p139.
[29] Ibid, p145.
[30] Ibid, p151.
[31] Ibid, p71.
[32] Parliament of Singapore, "Annual Budget Statement", March 4, 1987.
[33] MTI, *New Directions*, p89.
[34] Parliament of Singapore, "Annual Budget Statement", January 22, 2009.
[35] For example: "Pay rise without higher productivity 'dangerous'", *The Straits Times*, May 1, 2012.

This assertion regarding the relationship between wages and productivity in particular has come under criticism in recent years. Economist Ha-Joon Chang argues in a book about the myths of capitalism that wages levels have little to do with labour productivity, and are largely "politically determined" through immigration controls.[36] Chang goes further to say that the poor in developing countries are poor not because they are unproductive, but that they are poor because the rich with whom they share the country are not as productive as the rich in more well-off countries.[37]

The EC contended that the above (and other) policy changes would be necessary to restructure the Singapore economy from a "low-wage, low-productivity mode" to one that grows through "high productivity increases".[38]

Recovery from the recession

By 1987, it had become obvious that the recession would be a sharp but short one.[39] Economic growth recovered to 1.3% in 1986 and then a credible 10.8% in 1987.[40] And in 1990, after three successive years of double-digit GDP growth, the government declared that Singapore was finally "out of the spectre of 1985".[41]

Although the issue of labour productivity never left the minds of policy makers, a simple count of the word "productivity" in budget speeches could be indicative of the reduced priority that the government now placed on restructuring the economy towards higher labour productivity. This was obviously an issue of importance after the 'wage shock therapy' years of 1979 to 1981. "Productivity" was mentioned more than 20 times in each of the budget speeches of 1982 to 1984.[42] In 1985, the government was preoccupied with the sharp recession and the focus shifted to keeping unemployment low and the economy growing. "Productivity" would not be mentioned more than 10 times in a budget speech until 25 years later in 2010 (see Figure 1).

[36] Ha-Joon Chang, *23 Things They Don't Tell You about Capitalism*, January 2, 2011, p38.
[37] Ibid, p41.
[38] Ibid, p219.
[39] Parliament of Singapore, "Annual Budget Statement", March 7, 1986.
[40] DOS, "GDP".
[41] Parliament of Singapore, "Annual Budget Statement", March 2, 1990.
[42] Parliament of Singapore, "Annual Budget Statement", March 5, 1982; March 4, 1983; March 2, 1984.

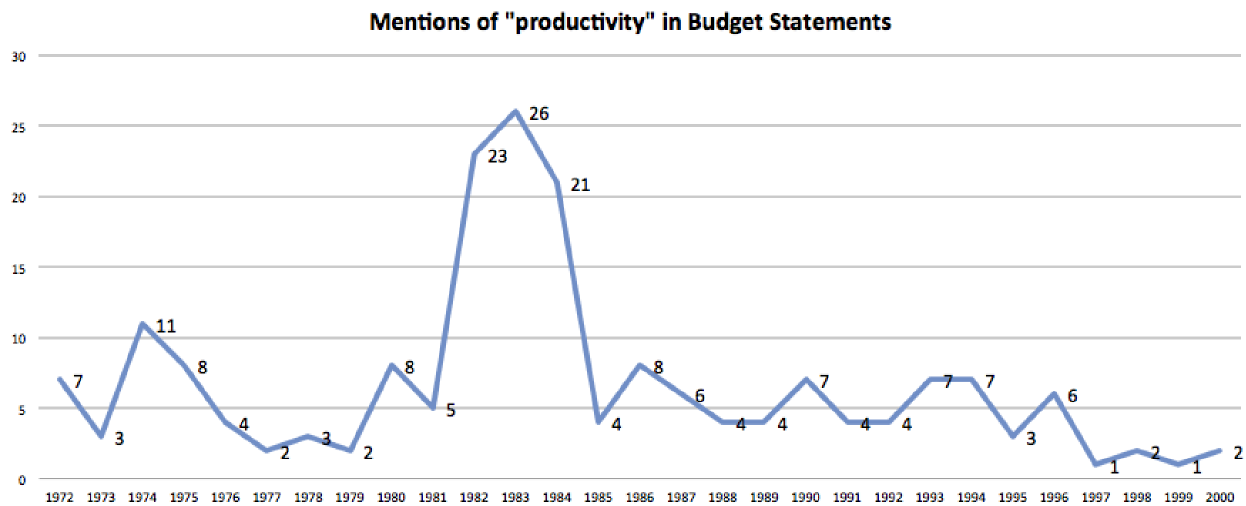

Figure 1 – Number of mentions of the word "productivity" in annual budget speeches.[43]

The changing policy stance on the role of foreign labour

After achieving full employment in 1970, Singapore had to import large numbers of foreign workers in order to continue growing the economy at the same high rates. From that stage on, labour not capital was holding back economic expansion.[44] Besides the obvious reasons, economic growth was of some importance to the ruling party because it had staked its mandate to govern on its ability to deliver economic growth and increasing standards of living. For example, in his 1981 National Day Rally speech, then-Prime Minister Lee Kuan Yew said:

> *"The Singapore voter has voted for the PAP since 1959; '59, '63, '68, '72, '76, '80 - six times. We have delivered. One day there will be a worldwide recession. I hope not in the next four years. I think we are all right. So we will win '84 - '85 [elections]. But the link is: I vote for you, PAP, now you deliver."*[45]

The large pool of foreign labour, which helped to support economic growth (reaching 150,000 by 1984[46], out of a population of 2.7 million[47]), was supposed to be temporary because it was seen as inimical to social stability and good industrial relations.[48] Right before the 1985 recession, plans were still in place to repatriate (gradually but eventually) most of these workers—and to

[43] Parliament of Singapore.
[44] See **Part 1**, p5.
[45] IBM Research's *Many Eyes* data set, available at http://www-958.ibm.com/software/analytics/manyeyes/datasets/ndr-1979-to-1981-1984-to-1985-lky/versions/1 (last retrieved August 6, 2014).
[46] Singapore Parliament, "Foreign Workers (Particulars)", March 14, 1984.
[47] Singapore Department of Statistics, "Time Series on Population (Mid-Year Estimates)"
[48] Singapore Parliament, "Foreign Workers (Particulars)", March 14, 1984. See also **Part 1**, p13.

assimilate a small number who had valuable (i.e. scarce) skills. In 1985, before the full force of the recession was felt, then-Minister for Finance Dr Tony Tan said in Parliament:

> *"Since the 1970s Singapore has had, in a sense, overfull employment...* ***The solution to our labour shortage cannot be an indefinite and ever-growing dependence on foreign workers.*** *The experience of countries, which have indiscriminately allowed large numbers of foreign workers to settle permanently, shows that this gives rise to social and political problems of such a magnitude as* ***to threaten the cohesiveness and stability*** *of their societies. The ultimate solution to a slowly growing workforce must be high productivity and a mature economy."*[49] *[Emphases added].*

After the recession, the stance (as reiterated by the EC) became that foreign workers were necessary to the economy and that a revolving pool of them should be tolerated in order to fill jobs that Singaporeans were disinclined to take up.[50] However, the government did not stop warning against an over-reliance on foreign workers:

- 1988, Minister for Finance Dr Richard Hu: *"We have therefore been using a pool of foreign workers as a buffer to cope with business cycles and economic fluctuations. However, we must not lose sight of the social and economic costs of an increasing dependence on foreign workers… As the slack in unemployment has already been taken up since early 1987, there was a* ***tremendous increase in the number of foreign workers****."*[51] *[Emphasis added].*

- 1989, Minister for Finance Dr Richard Hu: *"65,900 jobs were created in 1988, mostly in the manufacturing sector, compared with 66,000 jobs in 1987. But* ***many of the jobs in manufacturing went to foreign workers.*** *It was the increase in foreign employment that enabled us to exceed the long term growth rate of 4 to 6%... However, the strong inflow of foreign workers carries a* ***high social and political cost****, especially in the longer term… The robust growth last year and the tight labour market saw a strong inflow of foreign workers. In manufacturing,* ***more jobs went to foreign workers than to locals****."*[52] *[Emphases added].*

- 1990, Minister for Finance Dr Richard Hu: *"One way to boost the local labour force is to admit foreign workers. Out of the 68,000 jobs created in 1989, half went to foreign workers, mainly in the construction and manufacturing industries… However, the Government is mindful that the presence of a large pool of unskilled foreign workers may* ***obscure the comparative advantage of Singapore and hinder our efforts to move into higher value-added activities****. We do not wish to grow faster merely by* ***importing foreign workers to drive down wages****. We also want to ensure that the local workforce*

[49] Parliament of Singapore, "Annual Budget Statement", March 8, 1985.
[50] MTI, *New Directions*, p109.
[51] Parliament of Singapore, "Annual Budget Statement", March 4, 1988.
[52] Parliament of Singapore, "Annual Budget Statement", March 3, 1989.

> *share of our GDP is not eroded. We want to grow at a pace that can give our people challenging jobs at good wage rates."*[53] *[Emphases added]*.

Despite, and perhaps because of, these concerns, in 1986 the government lifted the requirement for foreign workers on Work Permits (who were not permanent residents of Singapore) to contribute to the CPF. These workers, who were supposed to be here temporarily and not sink roots in Singapore, would no longer have accounts with the national pension system. Unfortunately or otherwise, this also had the effect of reducing the cost to businesses of hiring foreign workers since employers no longer had to make CPF contributions on behalf of foreign workers. To equalise (somewhat) the costs of hiring locals and foreigners, and to introduce a price-based mechanism to control the number of foreign workers in the country on top of the existing quota system (as suggested by the EC), the government implemented a system of levies that businesses would have to pay in order to hire foreign workers on Work Permits. These levies were to be adjusted in accordance with market demand for foreign labour.[54]

After 1990, with the country buoyed by good economic growth before the Asian Financial Crisis struck, the government seemed to have become less concerned about the increasing number of foreign workers in the country (at least judging from the annual budget statements); at least until 2010/2011 when it again received more attention.

Emerging criticisms of Singapore's growth model

Singapore achieved remarkable success early on by growing the economy through the pursuit of foreign capital, but by the early 1990s, there were already criticisms of the country's growth model. As discussed earlier in **Part 1**[55], economic growth seemed to have become more reliant on labour force growth after 1975.[56]

By 1992, there was more research suggesting that Singapore's growth was supported more through a rapid accumulation of the factors of production rather than increases in economic efficiency (represented by growth in total factor productivity or TFP[57]).

Economist Alwyn Young wrote that Singapore started to industrialise later than Hong Kong, but quickly overtook the latter in manufacturing because of its active industrial targeting policies. He also noted the rapid rate of industrial restructuring in Singapore, citing as an example how Singapore became the largest exporter of disk drives in 1983 when it did not produce any just three years prior in 1980. However, he concluded that Singapore had grown more through a rapid accumulation of the factors of production, and less through TFP growth, observing that:

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[53] Parliament of Singapore, "Annual Budget Statement", March 2, 1990.
[54] Parliament of Singapore, "Annual Budget Statement", March 4, 1988.
[55] **Part 1**, p10.
[56] Pang Eng Fong, "Economic Development and the Labor Market in a Newly Industrializing Country: The Experience of Singapore", *The Developing Economies* Vol. 19 Issue 1, March 1981.
[57] See **Part 1**, p7: **Sidebar**.

> *"I find that both capital and (human capital adjusted) labor input have grown considerably faster in Singapore. While total factor productivity growth has contributed substantially to economic growth in Hong Kong, its contribution to growth in Singapore is next to nil."*[58]

Young also warned that Singapore's industrial targeting and investment promotion efforts could be working at cross purposes to its efforts to improve productivity:

> *"I advance the notion that Singapore is a victim of its own targeting policies, which are increasingly **driving the economy ahead of its learning maturity** into the production of goods in which it has lower and lower productivity. According to this argument, although Singapore might be experiencing learning-induced improvements in total factor productivity within individual sectors, this is masked at the aggregate level by a movement into industries in which the economy is less productive."*[59] *[Emphasis added]*.

In 1994, economist Paul Krugman summarised the above and other research on the area, and wrote in an article in *Foreign Affairs* that contemporary opinions about Asia's rapid growth being sustainable over the long run were mostly hype. He made what he admitted to be a "far-fetched" but illustrative comparison with the Soviet economy, which had grown chiefly through its ability to mobilise resources without improving its ability to use these resources efficiently. Among other countries mentioned in his article, Krugman singled out Singapore:

> *"[A]ll of Singapore's growth can be explained by increases in measured inputs. There is no sign at all of increased efficiency. In this sense, the growth of Lee Kuan Yew's Singapore is an economic twin of the growth of Stalin's Soviet Union—growth achieved purely through mobilization of resources."*[60]

Because researchers using different methods arrived at similar conclusions, this eventually came to be known as the Krugman, Kim, Lau, and Young (KKLY) hypothesis.[61]

Although "everyone" was very upset by Krugman's article when it was published, and then-Senior Minister Lee Kuan Yew "charged Krugman with greatly overstating his case"; the country nonetheless quickly took heed of Krugman's criticisms and by 1996 had launched an island-wide efficiency drive consisting of government initiatives, campaigns, and programmes.[62]

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[58] A. Young, "Two Cities", p16.
[59] Ibid.
[60] Paul Krugman, "The Myth of Asia's Miracle", *Foreign Affairs*, November/December, 1994, p71.
[61] Robin C. Sickles and Burcu Cigerli, "Krugman and Young Revisited: A Survey of the Sources of Productivity Growth in a World with Less Constraints", *Seoul Journal of Economics* 2009, Vol. 22, No. 1, p31. Sickles and Cigerli say that the measurements of economic efficiency, TFP, and factor accumulation are very difficult undertakings and "may not be possible from purely econometric models, no matter how sophisticated." However, other studies have contradicted the KKLY hypothesis and have in fact shown that these Asian economies have enjoyed significant efficiency and productivity growth.
[62] "Singapore Swing: Krugman Was Right—Stung by a Professor, the Island Starts an Efficiency Drive", Wall Street Journal, November 19, 1996.

Singapore also continued with the productivity programmes the country had launched earlier as described in **Part 1**.[63]

Coincidentally, Minister for Finance Dr Richard Hu cited the Soviet economy too as an example that Singapore should not follow:

> *"The former Soviet Union and the Communist countries of Eastern Europe, provide a dramatic if extreme example of the harm caused by mispricing key factors of production. These centrally-planned* ***economies deliberately under-priced factors of production*** *like oil, coal, electricity and steel, and then allocated them to favoured industries and consumers by central command, instead of by using market forces. They believed that oil, electricity, etc. were "strategic" sectors of the economy, and that pricing these resources cheaply would reduce costs for the targeted consumers of these resources, and help them to grow faster. Unfortunately, the results massively disappointed these hopes****. Far from low factor prices boosting the economy, they distorted structures of production so badly that sometimes the real value of the output was even less than the value of the material inputs.****"[64] [Emphases added].*

Despite these efforts to raise labour productivity, rapid population growth continued to be important in supporting economic growth. The population grew from 3 million in 1990 (with 2.7 million residents) to 4 million in 2000 (with 3.3 million residents), an average growth of 2.9% a year.[65] This rapid population growth happened at a time when the Total Fertility Rate (TFR) in Singapore continued to fall from 1.83 in 1990 to 1.60 in 2000[66], indicating that most of this growth came via immigration.

In addition to growing the population, the government, through the Economic Development Board (EDB), continued to pursue foreign investments and foreign capital aggressively to grow the economy. Investment commitments increased every year from just $604 million in 1979[67] to a record $9.2 billion in 2000[68]. In parliament, Finance Minister Dr Richard Hu explained that foreign investments were vital to the country's restructuring efforts:

> *"While we do more to help local businesses upgrade and modernize, we must continue to attract more foreign investments to Singapore. We need foreign investments* ***not only to generate and sustain economic growth but also to foster our economic restructuring and upgrading****"[69] [Emphasis added].*

[63] **Part 1**, p7.
[64] Parliament of Singapore, "Annual Budget Statement", February 28, 1996.
[65] DOS, "Time Series on Population".
[66] Singapore Department of Statistics, "Key Demographic Indicators, 1970 – 2013". A TFR of 2.1 is generally accepted as the replacement rate—below which a country's population would shrink.
[67] Parliament of Singapore, "Annual Budget Statement", March 5, 1980.
[68] Parliament of Singapore, "Annual Budget Statement", February 23, 2001.
[69] Parliament of Singapore, "Annual Budget Statement", March 4, 1987.

The Asian Financial Crisis

The 1997 Asian Financial Crisis caused the Singapore economy to dip into recession in 1998—its second since independence.

The crisis originated in Thailand in mid-1997. After trying and failing to defend the Thai Baht's soft peg to the US dollar against speculative attacks, the Thai government was forced to allow the Baht to float. In the aftermath, the Baht depreciated more than 100% against the US Dollar and the Thai stock market plunged 75%. The crisis spread to the rest of the region as foreign lenders and investors panicked, putting depreciation pressure on many currencies in the region.

Part 3 of this case will examine how the Asian Financial Crisis affected Singapore, the country's policy responses, and its efforts to raise productivity and wages through the subsequent economic shocks such as the 2001 electronics downturn and the 2009 financial crisis.