SINGAPORE'S PRODUCTIVITY CHALLENGE: A HISTORICAL PERSPECTIVE

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"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]

"What to do? Singaporeans complain [that there are] too many foreigners. [So the] government send them back lah!"

– "Now Even the Boss has to Work", govsingapore, official YouTube channel of the Singapore government, May 10, 2015.[3]

"And as everyone knows too, there are many sectors such as the Construction, Marine and Process industries, and even in some Service industries, where there will remain a significant shortage of local workers and where we will continue to need foreign workers for some time to come. However, the basic reality is that these sectors which are most dependent on foreign workers are also the ones furthest behind international standards of productivity, and which account for the lag in productivity in our overall economy."

– Mr Tharman Shanmugaratnam, Deputy Prime Minister and former Minister for Finance, 2013 Annual Budget Statement.[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] Line said by an actor playing the role of an SME business owner, https://youtu.be/riC-F3xhchU.
[4] Parliament of Singapore, "Annual Budget Statement", February 25, 2013.

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INTRODUCTION

This case provides a historical background on Singapore's policy decisions in economic development and their impact on labour productivity.

In 1961, Singapore's GDP was USD 704 million[5] with an unemployment rate close to 10%.[6] By 2013, Singapore's GDP had increased by more than 400 times in nominal terms to USD 295 billion,[7] and its citizen unemployment rate was 2.9%[8] —an extraordinarily low level compared to those seen in most advanced economies. Against this stark historical backdrop, it would appear that Singapore's economic policy challenges today bear little resemblance to the pressing, existential challenges the country faced in 1961. In the 1960s, the economic priority was clearly job creation. Then, the country was faced with both a high unemployment rate and a rapidly increasing population (estimated at 4% per year[9]).

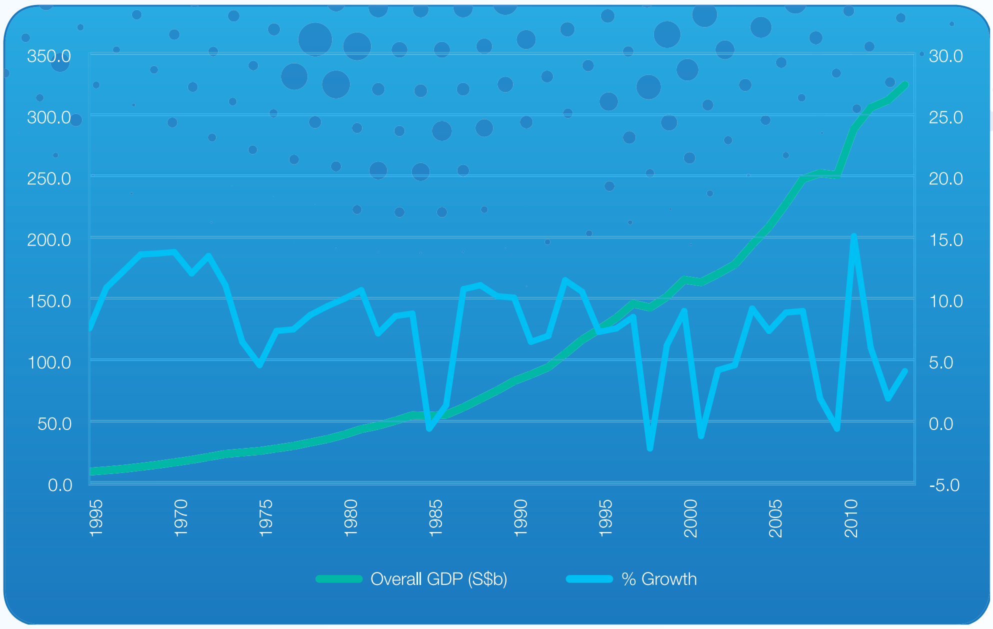

Figure 1 - Historical GDP at 2005 market prices and annual growth rates.[10]

The biggest challenge for Singapore today is to support economic growth through increases in productivity. In his 2014 budget statement, then-Minister for Finance Tharman Shanmugaratnam said that "*raising productivity is at the centre of our economic agenda*," and that it would be a "major, multi-year undertaking". The word "productivity" was mentioned no fewer than 25 times in his speech. The government's anxiety over labour productivity was understandable. It had committed, since 2010, to a reduction in the rate of growth of the foreign workforce in Singapore.[11] The rapid and large increases in Singapore's foreign workforce had been a major contributory factor to Singapore's economic growth in the preceeding

[5] Singapore Department of Statistics, "Gross Domestic Product at Current Market Prices", data.gov.sg (April 21, 2014).
[6] United Nations, *A Proposed Industrialization Programme for the State of Singapore*, June 13, 1961, p(ii).
[7] Singapore Department of Statistics. "GDP". Even in real terms, the Singapore economy is now more than 54 times as big as it was in 1961.
[8] Parliament of Singapore, "Annual Budget Statement", February 21, 2014.
[9] United Nations, p(i).
[10] Singapore Department of Statistics, "GDP".
[11] Parliament of Singapore.

decade. But Singapore's high dependence on less-skilled and lower wage foreign labour was seen by many analysts as a major obstacle to productivity improvements;[12] it was also, potentially, a cause of low wage stagnation for Singaporeans at the lower ends of the income distribution.[13] In recent years, there have been more expressions of increasing citizen unhappiness over the congestion and competition for jobs (and public goods) created by Singapore's large migrant workforce.[14]

However, despite what seems to be stark differences in the operating contexts, a careful and more nuanced understanding of Singapore's economic history—its past challenges and the government's responses to them—suggests that today's challenges in raising labour productivity are, to a large extent, the product of economic policy decisions made in the past. They are largely the consequence of earlier decisions on Singapore's *economic growth model*, and in particular the decisions to rely heavily on multinational corporations (MNCs) as the main engine of investment and job creation, and to meet the economy's seemingly insatiable need for (cheap) labour by importing large numbers of foreign workers. Equally important is the fact that the Singapore economy has been grappling with a high and increasing dependence on foreign labour and relatively lower productivity growth (compared to other successful East Asian economies) almost since independence and for at least four decades.[15]

See also

Appendix 1: What is productivity and why is it important in Singapore?

In 2013, Singapore became the richest country in the world by IMF estimates, with a per capita GDP of USD 61,567. The country is one of the most competitive and business-friendly in the world. Its economic success, especially in light of the uncertainties during the early years of independence, has been described by some as no less than being a "miracle".[16] The country now has the World's 11th largest foreign reserves and the most technologically advanced military in the Southeast Asia.[17]

However, the country's economic success was not so certain in its early days. Singapore attained internal self-government from Britain in 1959. Although outwardly a vibrant and prosperous city, it was also plagued by deep structural inequality, endemic poverty among some segments of its population[18], high unemployment and underemployment,[19] and a population increase which was then the highest in the world.[20]

[12] E.g.: Linda Lim, "How Land and People Fit Together in Singapore's Economy", *Hard Choices* (NUS Press, 2014), p32; Megawati Wijaya, "In Singapore, productivity at all costs", *Asia Times Online*, March 23, 2010.
[13] "The Wage Revolution, Interrupted", *The Straits Times*, January 27, 2012.
[14] Michael D. Barr, "Development Model Is the Root of Singapore's Immigration Problem", Jakarta Globe, April 3, 2014.
[15] E.g.: Paul Krugman, "The Myth of Asia's Miracle", *Foreign Affairs*, Nov/Dec 1994; Alwyn Young, "A Tale of Two Cities: Factor Accumulation and Technical Change in Hong Kong and Singapore," *NBER* Macroeconomics *Annual 1992* (MIT Press, 1992).
[16] E.g.: World Bank, *The East Asian Miracle: Economic Growth and Public Policy* (Oxford University Press, 1993).
[17] Tim Huxley, *Defending the Lion City: The Armed Forces of Singapore* (Allen & Unwin, 2000).
[18] Thum Ping Tjin, "The Old Normal is the New Normal", *Hard Choices* (NUS Press, 2014), p142
[19] United Nations, p(ii).
[20] United Nations, p1.

1960S – SINGAPORE'S FIRST INDUSTRIALISATION DRIVE

In 1960, to help the country develop an industrialisation programme, the Singapore government invited the United Nations to send a survey team to the country. The report, "A Proposed Industrialisation Programme for the State of Singapore" (also called the "Winsemius Report" after team leader and Dutch economist Dr Albert Winsemius), helped to shape Singapore's economic development for the subsequent decades.

The report described the economic situation in Singapore then as 'dire'. Though small, the population was increasing rapidly, both from a high birth rate and rapid immigration from the Malayan Peninsula. The country also suffered from high unemployment and underemployment. The UN team estimated that more than 200,000 jobs would need to be created in the coming decade,[21] and recommended both an immediate 'crash' programme and a longer 10-year programme to create the urgently needed jobs. Although the report emphasised how daunting this task would be, it was also cautiously optimistic that the country had great potential for economic growth and to industrialise. In particular, the report pointed out the high quality of labour in Singapore and the good potential for it to be deployed in manufacturing industries.[22] Additionally, the report highlighted that "*many domestic industries lacked only capital injections, in order to compete in world markets*".[23]

Many recommendations in that report eventually found their way into Singapore's economic development policies, including the two most important aspects: a very high level of openness to foreign investments, and relatively liberal immigration policies. The Winsemius report included a recommendation for the Singapore government to set up an entity to attract foreign investments into Singapore—what soon became the Economic Development Board (EDB). This represented a significant shift in industrialisation strategy, from one of *import substitution* relying on the Malayan common market to one that was *export-led*.

Submitted in 1961, the report projected that a crash industrialisation programme would solve the unemployment problem by 1965. However, Singapore's bid to join the Federation of Malaya (now 'Malaysia') would interrupt these industrialisation plans. The political uncertainties during that period added to investors' reluctance to start operations in Singapore, although Singapore did continue to industrialise and develop economically in those years.[24] Between 1963 and 1965, Singapore would first join the Federation to take advantage of a "Common Market" for Singapore-produced goods and service, and then leave the it due to political differences. Dr Winsemius would later call these years the 'lost years' of Singapore, and said that by being forced to leave the Federation Singapore *"at last got its hands free"*.[25] Once Singapore no longer had to deal with the political problems that the Federation created and got down to addressing the challenge of job creation through industrialisation, it quickly solved its unemployment problem. There was no shortage of companies willing to set up operations in Singapore. During the two years in Malaysia, the federal government had refused to issue any Pioneer Certificates (certificates giving corporate income tax exemption for a limited period to companies that were engaged in new, 'pioneering' activities; the incentive still exists today). One year from independence, the Singapore government had already issued 58 such certificates and had given in-principle approval for 25 more.[26]

By 1970, just five years after independence, Singapore had achieved full employment.[27] This was achieved in spite of an increase in the number of unemployed persons from the years when Singapore was part of Malaysia.[28]

[21] Ibid.
[22] Ibid, p(xv).
[23] Ibid, p(xvi).
[24] Parliament of Singapore, "Annual Budget Statement", December 13, 1965.
[25] Albert Winsemius, speech transcript: *The Dynamics of a Developing Nation*—Singapore (Singapore National Library, June 19, 1984), p11.
[26] Parliament of Singapore, "Annual Budget Statement", December 5, 1966.
[27] A. Winsemius, *Dynamics*, p12.
[28] Parliament of Singapore, "Annual Budget Statement", December 13, 1965.

1970s – THE START OF SINGAPORE'S DEPENDENCE ON FOREIGN LABOUR…

Singapore was by the 1970s attracting investments that created jobs at a rate far higher than the indigenous increase in the working age population. To meet this growing demand for labour, Singapore had to resort to importing large numbers of immigrant workers. By 1971, Singapore was importing more than 40,000 workers per year from Malaysia alone.[29] Singapore even had to reverse its bans on workers from non-traditional source (NTS) countries such as Sri-Lanka, Bangladesh, and Thailand when Malaysia could not supply enough workers.[30]

See also
Appendix 2: How foreign labour can be useful to a developing economy

Given the choice between slower growth and (arguably) more sustainable levels of immigration, or faster economic growth, it seemed the government chose the latter strategy, and started importing labour at a rate that would later prove to be unsustainable. Considering that Singapore had originally embarked on industrialisation with the primary aim of providing employment for its domestic population, some began to question if the policy of importing large numbers of immigrant workers in pursuit of rapid economic growth should be reconsidered at some point.

[29] K. S. Goh, *Economic Growth*, p26.
[30] A. Winsemius, *Dynamics*, p18.

In 1972, Dr Goh Keng Swee, by then-Minister for Defence, but who was Singapore's economic architect and the Minister for Finance when many of the early policies to attract foreign investments were introduced, observed in a speech at the University of Singapore, albeit with a disclaimer that his views lacked "official sanction":

> *"The question we must answer sooner or later is this: "When do we stop growing?" Or to be more precise, at what point do we stop importing foreign workers and cease to encourage foreign entrepreneurs and capital in Singapore? Because of our limited land area, industrial expansion together with the concomitant population expansion will produce overcrowding to increasingly uncomfortable limits."*[31]

Dr Goh also emphasised the need to develop domestic sources of capital and capabilities, and warned against an over-reliance on foreign investments (even while acknowledging the critical role of these investments when Singapore was in a "desperate" position):

> *"If we have [selected the right industries to develop in Singapore], our dependence on multinational companies will be lessened and we will be able by our efforts to develop export markets for such products as we have the capacity to specialize in. The scope for improvements in wage level will be all the larger and will depend on the resourcefulness of our salesmen, the ingenuity of our scientists and engineers, the efficiency of our management and the skill and industry of our workers…*
>
> *"[I]f our dependence on the multinational companies is complete a difficult situation may emerge with a growing gap between our GNP and our GDP.*[32] *It will be accompanied by increasing, not diminishing, inequalities in the distribution of income. This is not a prospect that we can contemplate with equanimity."*[33]

Indeed, even before the start of Singapore's foreign investment-driven industrialisation drive, the Winsemius Report had noted that there already existed a gap between foreign- and local-run firms as early as 1961:

> *"Singapore's manufacturing industry can be divided into two groups. On the one side, there are a limited number of usually well managed factories, for the greater part subsidiaries of foreign firms. On the other side, there exist many small establishments characterised by low productivity."*[34]

Clearly, Dr Goh was warning against the risk of entrenching the local-foreign productivity divide that in all likelihood had been worsened by the pursuit of foreign investments and industrial know-how to solve the pressing unemployment problem.

[31] K. S. Goh, *Economic Growth*, p26.
[32] Gross Domestic Product (GDP) is the total value of goods and services produced within the boundary of a country's territory. Gross National Product (GNP) is the total value of goods and services produced by all the nationals of a country (persons or corporations) whether inside or outside a country's territorial boundary. Here, Dr Goh was concerned that an overdependence on foreign companies and foreign capital would mean that much of the value generated by the economy would be due to foreigners.
[33] Ibid, p33.
[34] United Nations, p52.

… AND A NASCENT EMPHASIS ON PRODUCTIVITY

Notwithstanding Dr Goh's disclaimer of the lack of "official sanction" for his views, others within the government began to take the issue of labour productivity (and overdependence on foreign labour seriously.

Singapore's early industrialisation efforts had been premised on the country being a dependable and value-for-money base of production for the early offshoring efforts of MNCs.[35] Because these companies had a choice between competing locations, it was necessary to ensure that Singapore's workers compared well against those in other "competitor" countries within the region. Productivity would be a key measure of how well Singapore's workforce stood in comparison.

In 1972, the government passed the National Productivity Board Bill to promote the National Productivity Centre under EDB to a full statutory board, the National Productivity Board (NPB).[36] In collaboration with the National Trades Union Congress (NTUC), the Singapore Employers' Federation [SEF, now SN(ational)EF], and the Singapore Manufacturers' Association (SMA); NPB would adopt a "total productivity approach" to promote productivity consciousness among employers and workers as well as provide managerial and technical training to companies in Singapore. The government stressed the importance of productivity, insisting that wage increases without accompanying productivity increases would upset the "economic apple-cart" and risked "imped[ing] economic growth". Singapore's dependence on foreign investments was an important motivation behind the need to improve productivity vis-à-vis other 'competitor' countries.

Coupled with efforts to increase labour productivity, the government changed the focus of foreign investments towards more capital-intensive projects and became much more selective in granting corporate tax exemptions. The 1970 Economic Expansion Incentives (Relief from Income Tax) (Amendment) Bill raised the threshold of capital investments needed to qualify for corporate tax exemption,[37]

[35] J. F. Ermisch and W. G. Huff, "Hypergrowth in an East Asian NIC: Public Policy and Capital Accumulation in Singapore", *World Development Vol. 27 No. 1*, 1999, p21.
[36] Parliament of Singapore, "National Productivity Board Bill", March 23, 1972. A statutory board is formed and given certain powers under an act of parliament (a "statute") in order to achieve certain objectives as set out in the statute. Such an entity usually has more operating autonomy than a government ministry.
[37] Parliament of Singapore, "Economic Expansion Incentives (Relief from Income Tax) (Amendment) Bill", July 22, 1970.

and reduced the number of years of tax exemption granted. From November 1970 to March 1971, the government awarded only nine Pioneer Certificates, reflecting a greater selectivity in attracting investments[38] and a desire—just six years after the country independence—to reduce significantly the Singapore economy's dependence on cheap (foreign) labour.

However, just as government became more selective in its choice of investments, the 1970s brought a number of global economic shocks—the 1973 oil crisis, the 1973 US stock market crash and secondary banking crisis, the 1974 recession in global trade, and general stagflation in much of the developed, Western world. At the height of the 1974 world trade recession, world trade contracted by 11% quarter-on-quarter.[39] Because of the heavy external orientation of the Singapore economy, the country faced heavy job losses of up to 2% of the workforce. One of Singapore's responses to this crisis was to focus *even more strongly* on attracting investments.[40] President of NTUC Devan Nair explained to workers in February 1976 that in order to keep unemployment down, the government needed to lower labour costs in relation to its competitors so as to attract investments in an unfavourable global environment[41]. Although the government did not abandon the effort to attract more capital-intensive (and hence higher value-added) projects, amendments made to export incentives in 1975 removed discrimination against labour-intensive investments. This policy of holding down wages would continue until mid-1979. The priority during this difficult period was attracting investments—regardless of their productivity or wage-raising potential.[42]

Because of these decisions, the Singapore economy never contracted during that troubled decade. The lowest real annual GDP growth recorded in the 1970s was 4.6% in 1975, and this had rebounded strongly to 8.7% by 1978.[43] Thus, purely from the perspective of maintaining high growth rates, it appeared that the Singapore government had made the right decision to bring in whatever investments came along, rather than be picky about the 'quality' of such investments.

But in hindsight, it was during the late 1970s that the government's decision to pursue more capital-intensive investments while holding down labour costs first gave rise to serious contradictions, with capital- and labour-intensive industries beginning to hinder each other's expansion.[44] At a macro-level, labour force expansion *increased* in its relative contribution to economic growth after 1975, in contrast to the earlier 1966-74 period.[45] In the middle of a troubled decade and faced with an uncertain global outlook for the global economy, the government had declined to slow down labour force growth because of the overriding need to sustain economic growth and to keep unemployment low by continuing to attract foreign investments.

[38] Parliament of Singapore, "Revision of Industrial Policy (Withdrawal of incentives to foreign investors)", March 26, 1971.
[39] OECD Quarterly real trade data.
[40] Garry Rodan, "Singapore's 'second industrial revolution': State intervention and foreign investment", *ASEAN-Australia Economic Papers No. 18*, 1985, p14.
[41] "Devan Nair on the Workers and the Nation", *Singapore Economic Bulletin*, March 1976, pp39-40.
[42] G. Rodan, pp14-15.
[43] Singapore Department of Statistics, "GDP".
[44] G. Rodan, p16.
[45] 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; This analysis asserts that labour became more, not less, important to Singapore's economic growth *despite* government efforts to promote capital-intensive industries.

1980s - THE 'SECOND INDUSTRIAL REVOLUTION'

By 1978, when it had become clearer that Singapore's (and the world's) economy was on the mend, the government again warned of the dangers of depending on labour-intensive industries, and of the need to shift the economy more decisively towards capital-intensive industries. Nonetheless, the government estimated that Singapore would continue to depend on foreign investment for at least another 10 to 15 years even as it upgraded its industries and developed indigenous industrial capabilities.[46]

As the government though the EDB continued to attract foreign investment, by late 1978 the most serious constraint on economic growth was once again the shortage of labour, rather than insufficient capital or investments. Jobs were being created at an average rate of around 40,000 per year while the workforce only expanded by 30,000 to 32,000 per year.[47] Management at several electronics companies blamed labour shortages for abandoning plans for plant expansions and upgrades. The emergence of widespread job hopping (due to the tight labour market) was seen by the government as an erosion of the labour discipline that had contributed much to Singapore's attractiveness as an investment destination.[48] Malaysia had traditionally been an important source of labour because of the country's similar ethnic mix and culture, but Malaysia's own economic development efforts reduced the availability of migrant labour from that country. It was during this period that companies began to look for labour from NTS countries further afield such as India, Bangladesh, Sri Lanka, Thailand and the Philippines. Under pressure from businesses and to support economic growth, the government had to reverse its bans on migrant labour from this latter group of countries despite its concerns about potential social and political problems.[49]

In 1979, dissatisfied with the rate of industrial restructuring and reassured by the massive rebound in foreign investments in 1978, the government adopted more aggressive measures to force industries to restructure. Prior to 1979, the government had depended more on an incentives-based approach to encourage restructuring, such as accelerated write-downs for capital and stricter criteria for tax incentives and government grants. Now, it decided that a series of substantial wage increases was the best way to force less productive industries and companies to upgrade, close down, or relocate to countries with cheaper labour costs.[50] These industrial restructuring efforts, driven by a clear government commitment to raise the wage of Singaporean workers , came to be known as Singapore's 'Second Industrial Revolution' in contrast with the earlier industrialisation efforts that had been focussed on solving the unemployment problem.

Addressing the opening of Japan Steel Works on June 8 1979, then-Minister for Trade and Industry Mr Goh Chok Tong gave the first signal of impending wage adjustments.[51] Wage policy would be used to increase wages and induce "excessive" users of labour to automate, thus freeing up workers for better industries. He said that aside from the "social problems of integration and maladjustments", a high dependence on migrant workers was economically undesirable because:

> *"It helps to sustain low-skilled, low productivity and labour intensive industries. These industries in turn can afford to pay only low wages which in turn, cause them to depend on more imported labour to keep their wage costs down."*

This was one of the first admissions by the government of the unavoidable tensions between the need for rapid economic growth and the high levels of immigration needed to sustain that growth, and a harmonious social fabric. It was also a warning of the low-wage trap that could afflict some industries in Singapore should restructuring efforts fail to bear fruit.

Shortly after that in July 1979, the National Wages Council (NWC)[52] issued recommendations for across-the-board wage increases in absolute and percentage terms. The increases amounted to about 20% increase in wage costs for employers.[53] Although employers knew that wage increases were coming, the actual magnitude proved to be a shock for some. In particular, there were vocal complaints from domestic capital that their position was precarious owing to a relative lack of resources and funds for restructuring. At the same time, the response from some foreign investors was

[46] Singapore Parliament, "Annual Budget Statement", February 27, 1978.
[47] G. Rodan, p15.
[48] Ibid, p16.
[49] Ibid.
[50] Ibid, p17.
[51] "Cheap labour 'shake out'", *The Straits Times*, June 9, 1979.
[52] Founded in 1972, a 'tripartite' body comprising representatives from the three social partners—the employers, the trade unions, and the Government. The Council meets every year to deliberate and forge national consensus on wage and wage-related matters. It issues guidelines on these matters every year based on the tripartite consensus reached during the deliberations. Ironically, it was first formed to *hold down* wage increase expectations. See: http://www.tripartism.sg/page/National-Wages-Council/ (May 22, 2014).
[53] G. Rodan, p21.

that the increased wage costs rendered Singapore unsuitable for labour-intensive production without necessarily making the country suitable for more sophisticated production.[54] Some employers suggested that the government could achieve the same effect of higher wages by reducing the increase in foreign workers, but the government dismissed this approach as being too gradualist. The government had no patience to wait for a lower foreign worker intake to translate into wage increases and then into increased automation and mechanisation.[55] It sought instead to force the pace of wage increase almost by government fiat.

Despite protestations from foreign and domestic businesses, the lack of retrenchments and the tight labour market conditions convinced the government that there was still leeway for further wage increases, especially since wage growth had been restrained by the NWC throughout most of the 1970s. NWC continued to recommend significant (albeit lower and more flexible, in a small concession to businesses) wage increases for both 1980 and 1981, all of which were accepted by the government. Over the three years of 1979 to 1981, the total recommended wage increases from the employer's perspective amounted to 54-58%. The increase in take-home pay for employees was smaller because 8% of that increase went towards Central Provident Fund (CPF) contributions[56] and 4% went towards the Skills Development Fund (SDF) that was set up by the government to finance skills upgrading.[57]

By 1981, the NWC was convinced that the high wage policy had succeeded and that jobs were being replaced by capital investment. The proof was in the 71% increase in fixed investment per worker (excluding petroleum projects) for new investment commitments and a 28% increase in value-added per worker, as well as a 37% decline in the number of new jobs created in the first quarter of 1981. However, given the short time period that NWC referred to, this assertion of success could have been premature.[58]

However, the high wage policy did little to stem the increase in foreign workers. The number of foreign workers in all sectors of the economy rose from 69,428 in 1980 to 90,726 in 1982 according to the Ministry of Labour. By 1982, the government considered it necessary to forcibly phase out low skilled NTS workers. From January that year, the government stopped issuing work permits for new NTS workers with the exception of those in construction, shipbuilding and repair, and domestic service industries. Even for the remaining industries, there was a deadline to phase out these NTS workers entirely after 1992.[59]

In an interview with Singapore Broadcasting Corporation for the documentary "Foreign Labour—A Dilemma?", Prof S. Jayakumar (then-Minister for Labour and Second Minister for Law and Second Minister for Home Affairs) said that the reason foreign workers had to be phased out was because they harmed the "*national drive for a cooperative form of industrial relations*", explaining:

> *"You see, they come from countries where they are used to confrontation with employers, instigation, taking up cudgels, which is contrary to our policy of promoting harmonious labour-management relations."*[60]

The following year in Parliament, Prof Jayakumar remained consistent in conveying the government's intentions, emphasising that these foreign workers must not become a permanent feature of the economy:

> *"What every Singaporean needs to know is that there is a large number of foreign workers, 150,000, and we have to have them* ***temporarily****. But in the long-term economic and social interest, they will have to be phased out.* ***The Government will phase them out****. But while they are here, the Government will take strong measures to ensure that they do not sink roots here…"*[61] *[emphasis added]*

Therefore, at least until as late as 1984, it appeared that the government had every intention to eventually phase out less skilled foreign labour, *including* those from Malaysia, by 1991.[62]

These plans to reduce the country's reliance on foreign labour were disrupted by the severe recession that hit Singapore in 1985. The Singapore economy shrank for the first time since independence, with the growth rate dropping precipitously from 8.8% in 1984 to -0.6% in 1985.[63] The lingering effects of the global economic shocks of the past decade, coupled with a sharply contractionary monetary policy by the US Federal Reserve, caused a deep recession in the US that eventually spread to other developed and developing countries. Singapore, being a major trading partner of the US as well as many of the subsequently affected countries, eventually entered into a recession in 1985.

[54] Ibid.
[55] Ibid, p19.
[56] CPF is an individualized pension fund that has restrictions to prohibit most types of withdrawals before retirement.
[57] However, even these real increases in take home pay were partially negated by the relatively high inflation in those years, where the consumer price index grew by an average of around 7% a year (Singapore Department of Statistics, "Annual consumer price index"); Also, mandating part of the wage increases through CPF was done to prevent higher wages from translating immediately into higher domestic inflation.
[58] G. Rodan, p22.
[59] Singapore Parliament, "Work Permit Division (Effects of restrictive attitude)", October 19, 1984.
[60] "Jayakumar tells why foreign workers must go", *The Straits Times*, November 7, 1983.
[61] Singapore Parliament, "Foreign Workers (Particulars)", March 14, 1984.
[62] "Singapore Removes Curbs on the Hiring Of Foreign Workers", *The Wall Street Journal*, January 16, 1984.
[63] Singapore Department of Statistics, "GDP".

1985 – SINGAPORE'S FIRST RECESSION AND SUBSEQUENT POLICY RESPONSES

Given the economy's credible performance in the 1970s and early 1980s (GDP growth averaged 8.5% from 1980 to 1984[64]), the government remained sanguine even in the first quarter of 1985 about how that 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".[65] 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).[66]

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.[67]

Perhaps more importantly, the EC identified several domestic and policy-induced causes for the recession. Chief among them was Singapore's loss in competitiveness, which it 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 property glut and construction slump in 1985 that knocked 2 percentage points off GDP growth.[68]

As Singapore was still reliant on foreign investments to get access to knowhow, new technologies, and markets[69], 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.

[64] MTI, *New Directions*, p4.
[65] Parliament of Singapore, "Annual Budget Statement", March 8, 1985.
[66] Ibid.
[67] MTI, *New Directions*, p4.
[68] Ibid, p34.
[69] 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."

Policies to tackle 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*".[70] At the time they were issued, the rapid increases in wages recommended by the NWC 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[71] (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.[72]

As an immediate remedy, the EC recommended a temporary 15-point cut in the employer's CPF 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.[73] 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[74] (perhaps 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).

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.[75]

Policy changes on 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.[76]

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*"[77], 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.[78]

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[70] Ibid, p226.
[71] G. Rodan, p17.
[72] MTI, *New Directions*, p228.
[73] MTI, *New Directions*, p52.
[74] Ibid, p8.
[75] Ibid, p8.
[76] "Singapore Removes Curbs on the Hiring Of Foreign Workers", *The Wall Street Journal*, January 16, 1984.
[77] MTI, *New Directions*, p106.
[78] MTI, *New Directions*, p109.

Other policy responses

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.[79]

Many other changes in future policies can in fact be traced back to the EC's recommendations, including reductions in and alignment between corporate and personal income tax rates[80], the proposal to broaden the tax base through the introduction of indirect taxes on consumption[81], the simplification of the tax code[82], the promotion of services in addition to manufacturing as a pillar of the economy[83], government support for R&D[84] and information technology[85], and privatisations of government-owned enterprises.[86]

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*".[87]

See also
Appendix 3: The global economic policy orthodoxy in the 1980s

Recovery from the 1985 recession

By 1987, it had become obvious that the recession would be a sharp but short one.[88] Economic growth recovered to 1.3% in 1986 and then a credible 10.8% in 1987.[89] 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*".[90]

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.[91] 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 2**).

[79] Parliament of Singapore, "Annual Budget Statement", March 7, 1986.
[80] MTI, *New Directions*, p89.
[81] Ibid.
[82] Ibid, p90.
[83] Ibid, p139.
[84] Ibid, p145.
[85] Ibid, p151.
[86] Ibid, p71.
[87] Ibid, p219.
[88] Parliament of Singapore, "Annual Budget Statement", March 7, 1986.
[89] DOS, "GDP".
[90] Parliament of Singapore, "Annual Budget Statement", March 2, 1990.
[91] Parliament of Singapore, "Annual Budget Statement", March 5, 1982; March 4, 1983; March 2, 1984.
[92] Parliament of Singapore.

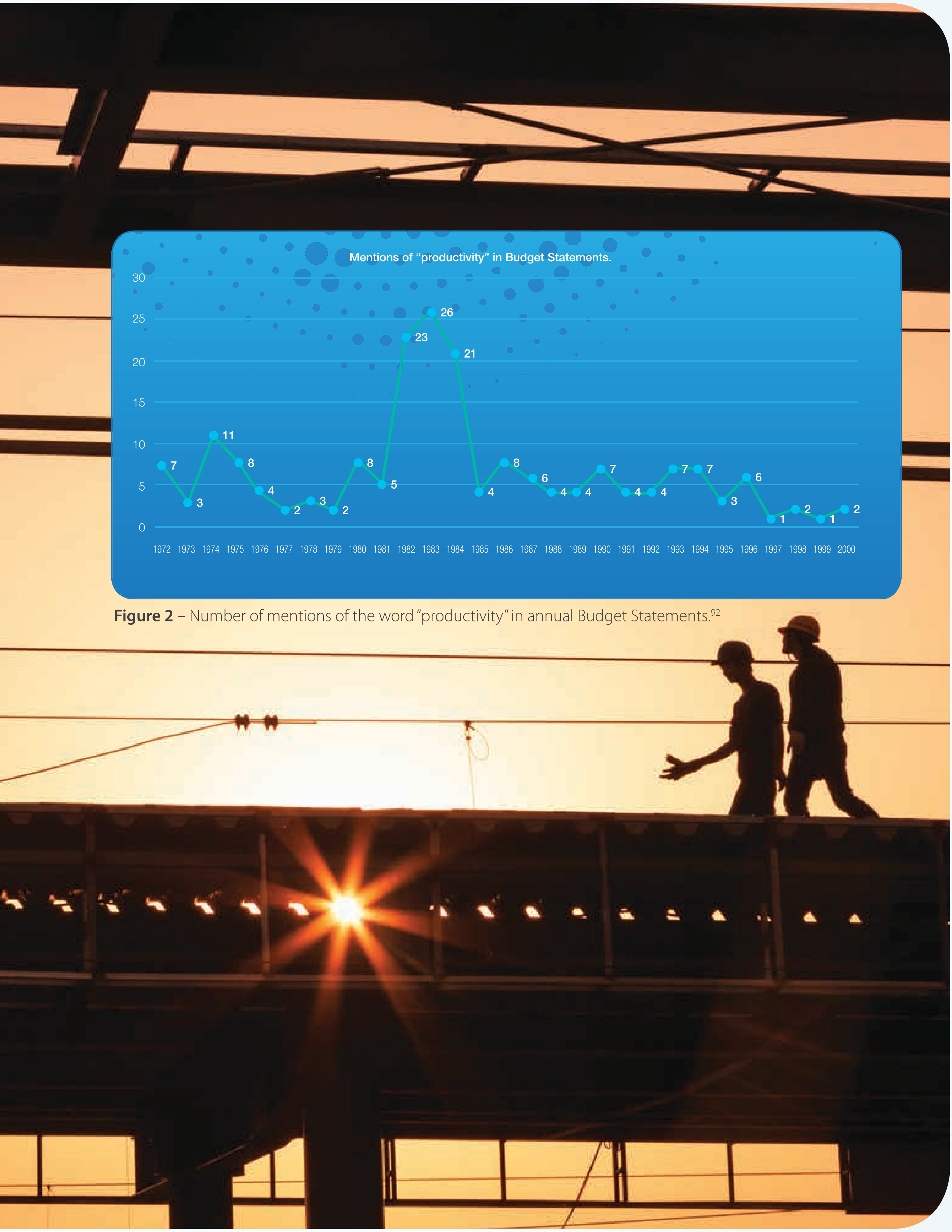


Figure 2 – Number of mentions of the word "productivity" in annual Budget Statements.[92]

1990s – 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, economic growth seemed to become more reliant on labour force growth after 1975.[93]

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[94]).

See also

Appendix 4: The obsession with growth and how Singapore's policy stance on the role of foreign labour has shifted

Economist Alwyn Young wrote that Singapore had 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:

> *"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."*[95]

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."*[96] *[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."*[97]

Because researchers using different methods arrived at similar conclusions, this eventually came to be known as the Krugman, Kim, Lau, and Young (KKLY) hypothesis.[98]

[93] 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.
[94] See **Appendix 1**.
[95] A. Young, p16.
[96] Ibid.
[97] Paul Krugman, "The Myth of Asia's Miracle", *Foreign Affairs*, November/December, 1994, p71.
[98] 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.

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.[99] Singapore also continued with the productivity programmes the country had launched earlier.

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

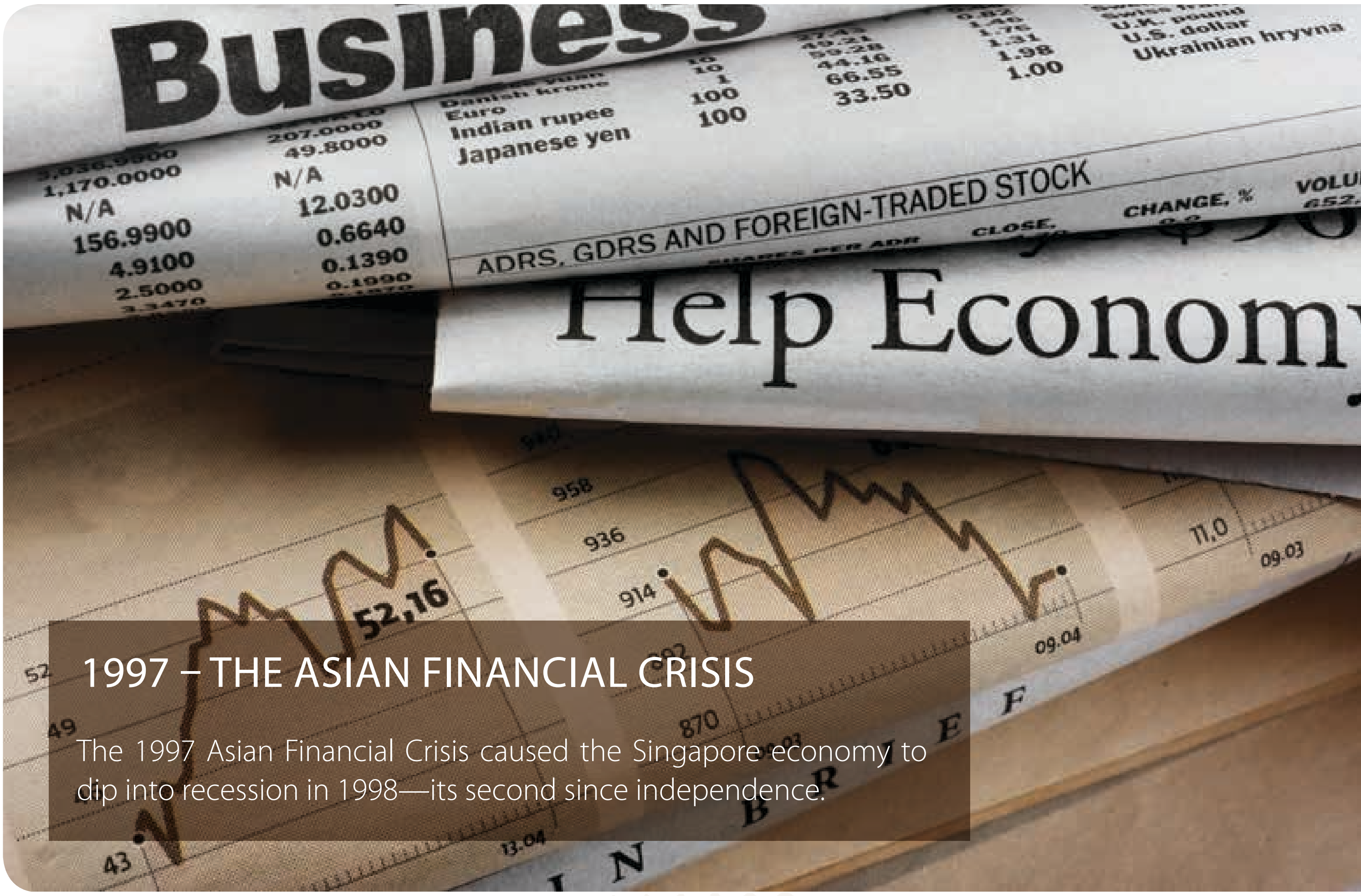
> *"The former Soviet Union and the Communist countries of Eastern Europe, provide a dramatic if extreme example of the harm caused by mispricing key factors of production. These centrally-planned* ***economies deliberately under-priced factors of production*** *like oil, coal, electricity and steel, 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****."[100] [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.[101] 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[102], 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[103] to a record $9.2 billion in 2000.[104] In parliament, Minister for Finance 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****"[105] [Emphasis added].*

[99] "Singapore Swing: Krugman Was Right—Stung by a Professor, the Island Starts an Efficiency Drive", *Wall Street Journal*, November 19, 1996.
[100] Parliament of Singapore, "Annual Budget Statement", February 28, 1996.
[101] DOS, "Time Series on Population".
[102] 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.
[103] Parliament of Singapore, "Annual Budget Statement", March 5, 1980.
[104] Parliament of Singapore, "Annual Budget Statement", February 23, 2001.
[105] Parliament of Singapore, "Annual Budget Statement",March 4, 1987.



1997 – 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 and quickly spread to the regional economies. Regional currencies fell precipitously against the US Dollar (with most depreciating between 30 to 80 per cent[106]) and stock markets slumped as foreign lenders and investors panicked. Singapore eventually dipped into recession in 1998.

In contrast to other regional economies severely impacted by the crisis, Singapore escaped relatively unscathed because of its strong macroeconomic fundamentals and timely government interventions. But because the Singapore Dollar depreciated less against the US Dollar (by less than 20%[107]), the country's exports became less price competitive than others from the region. Disinclined to intervene in the foreign exchange market to further lower the Singapore Dollar as the crisis became protracted, the government opted instead for cost cutting measures to restore competitiveness.[108]

As part of the cost reduction package that included wide ranging cuts to government-set fees and charges, the employer's contribution to CPF was reduced from 20% to 10%. This was similar to the government's response to the 1985 recession, when the employer's contribution rate was cut from 25% to 10% (subsequently partially restored to 20%). On top of the CPF cuts (which did not affect take home pay), the NWC recommended wage reductions of between 5 to 8%[109] with the government taking the lead by slashing many civil service salaries by up to 5% and freezing the salaries of ministers and senior civil servants[110]. NWC's wage reduction recommendations went further than its previous guidelines during the volatile 1970s and in the aftermath of the 1985 recession, both occasions when only "wage restraint" was urged. The effect of this cost reduction package was to "plunge" unit labour costs back to 1992/1993 levels[111], restoring cost competitiveness to Singapore's exports.

The Singapore economy recovered strongly from its second recession. By 2000, prospects for the economy seemed "bright"[112], with the economy growing by an impressive 9% that year.

[106] Ngiam Kee Jin, "Coping with the Asian Financial Crisis: The Singapore Experience", *Institute of Southeast Asian Studies Visiting Researchers Series No. 8*, Mar 2000, p6.
[107] Ibid, p6.
[108] Ibid, p2.
[109] Parliament of Singapore, "Budget, Ministry of Manpower", Mar 15, 1999.
[110] Parliament of Singapore, "Summary of Adjustments of November 1998 Cost Cutting Measure", Nov 23, 1999.
[111] Parliament of Singapore, "Annual Budget Statement", Feb 26, 1999.
[112] Parliament of Singapore, "Annual Budget Statement", Feb 25, 2000.

2000s – A DECADE OF ECONOMIC VOLATILITY AND THE PUSH FOR AN INNOVATION-DRIVEN ECONOMY

As it turned out, high and stable growth in the decade following the Asian Financial Crisis would prove to be elusive. In quick succession, the 2001 global electronics crash[114] (affecting Singapore's substantial electronics exports), the 2003 SARS[115] outbreak (affecting regional tourism and trade), and the 2007/2008 Global Financial Crisis each buffeted Singapore's open, exports-driven, and trade-dependent economy.

As early as 2004, it became clear that the decade following the 1997 crisis would not be as calm as the one preceding it. Then-Deputy Prime Minister and Minister for Finance Lee Hsien Loong (now Prime Minister) opened his 2004 budget statement by pointing out this new reality:

> *"In the last six years, the Singapore economy experienced more volatility and uncertainty than it had encountered over the previous 30 years. Beginning with the Asian Financial Crisis in 1997, a series of external shocks buffeted our economy and ended a decade of uninterrupted growth."*[116]

Faced with this uncertain decade, Singapore adopted a strategy of seizing growth opportunities whenever global conditions were favourable. Prime Minister Lee Hsien Loong explained this strategy in his 2006 National Day Rally speech:

> *"I think that when conditions are good and the sun is shining,* ***we should go for it, as fast as we can, as much as we can****. Get the growth, put it under our belt, put it aside a little bit, so when the thunderstorm comes again, we will be ready."*[117] *[Emphasis added]*

Due to Singapore's labour constraints, it was necessary for foreign labour to be imported in order to take advantage of these growth opportunities. Reflecting back on Singapore's policy responses to this decade of volatility in 2010, then-Minister for Finance Tharman Shanmugaratnam said in his 2010 Budget Statement:

> *"Much of our growth in the last 10 years took place from 2004 to 2007, when our GDP grew an average of 8% per year. We were able to achieve this because companies could obtain the workers they needed to seize opportunities to expand while the environment was favourable… Our workforce grew rapidly over those four years, by 5% per year, with foreigners accounting for about half of the growth. By going for growth when the conditions allowed, we offset the downturns we experienced earlier in the decade—first, when the global dot-com bubble burst in 2000, then with 9/11, and again when SARS hit us in 2003. The upshot is that* ***by allowing in foreign workers so that we could go for growth in the good years****, we reduced unemployment, and raised wages for Singaporeans after the standstill in the first part of the decade… This was therefore* ***not a strategy of "growth at all costs"****, but of growing our economy to raise Singaporean incomes."*[118]*[Emphases added]*

A few months after that, Prime Minister Lee Hsien Loong explained that because of the strong recovery from the recession, the demand for labour in Singapore was so great that the economy risked overheating if the import of foreign workers was slowed:

> *"Even with that [moderation of import of foreign workers], I imagine there will be more than 100,000 extra foreign workers*[119] *this year.* ***I cannot see it otherwise. But we have to accept that****."*[120]*[Emphasis added]*

Although necessary to maintain a high rate of economic growth, this strategy resulted in an increase in the foreign workforce that many Singaporeans felt was too rapid. Giving voice to these sentiments, then-Minister Mentor (and founding Prime Minister) Lee Kuan Yew later observed in 2011: "*We've grown in the last five years by just importing labour. Now, the people feel uncomfortable, there are too many foreigners.*" Mr Lee also estimated that it might take five years for the country to scale back its need for foreign workers.[121]

However, the continued reliance of the economy on foreign labour did not mean that the government had stopped trying to restructure the economy. Even before the 1990s, the government realised that a concerted effort was needed to shift Singapore's industries towards products and services with higher innovation and technology content.
The report from the 1998 Committee on Singapore's Competitiveness (CSC) highlighted that, "*Given our limited resources, Singapore has to compete on the basis of capabilities rather than costs… As competition intensifies,*

113 Singapore Department of Statistics, "Time Series on GDP at 2005 Market Prices and Real Economic Growth".
114 Global semiconductor chip sales shrank by 32% in 2001; Parliament of Singapore, "Annual Budget Statement", Mar 5, 2002.
115 Severe Acute Respiratory Syndrome, a viral disease with a 10% fatality rate that originated from southern China and spread to 37 countries including Singapore.
116 Parliament of Singapore, "Annual Budget Statement", Feb 27, 2004.
117 Lee Hsien Loong, National Day Rally, Aug 20, 2006.
118 Parliament of Singapore, "Annual Budget Statement", Feb 22, 2010.
119 Approximately 3% of the total workforce and 10% of the total foreign workforce in 2010.
120 "100,000 more foreign workers needed: PM Lee", *The Straits Times*, July 15, 2010.
121 "Fewer foreign workers in five years, says MM", *The Straits Times*, January 28, 2010.

Singapore needs to move continually up the technological and capabilities ladder."[122] The committee recommended that the government invest more heavily in long term R&D (Research and Development), increase technology transfer to the private sector, train more R&D personnel, and improve the start-up environment in Singapore.[123]

GERD (Gross Expenditure on R&D) can be used a broad indicator of the importance of R&D in a country's economy. The government set an initial target of 3 per cent by 2010[124] (later raised to 3.5 per cent by 2015[125], a level comparable that in most developed countries). In 2006, the government set up the National Research Foundation (NRF) to support long-term research projects that required large initial public investment. These efforts were successful in raising Singapore's GERD from 1.9 per cent in 2000 to 2.77 per cent in 2008.[126]

R&D, by its nature, is a long-term endeavour. Its effects would take a long time to be felt in the wider economy. However, by 2008 (when the economy was again growing strongly, and before the full impact of the global financial crisis hit Singapore) policymakers were confident that efforts to restructure the economic growth to be more innovation-driven (and therefore less factor-driven) were already showing early signs of success. Then-Minister for Finance Tharman Shanmugaratnam said in his 2008 Budget Statement:

> *"We have been aided by a favourable global environment. But Singapore's strong growth in recent years has mainly been the result of our broad-ranging efforts to restructure our economy, labour market and fiscal system.* ***This is not a story of an old economy growing quickly, but of a new economy emerging out of the old****. It is about how we are attracting new and cutting edge investments, capitalising on opportunities in new growth industries and markets abroad, upgrading our workers' skills and competing at an advantage. Indeed this is why we have been growing much faster than other developed countries—faster than any other country with the same standard of living as us."*[127] *[Emphasis added]*

2010s – A RENEWED ZEAL FOR PRODUCTIVITY

Although the attention paid to labour productivity was obvious during and immediately after the 'wage shock therapy' years of 1979 to 1981, after the 1985 recession the focus shifted to keeping unemployment low and the economy growing.

Only after Singapore had recovered from its 2009 recession did the downsides of relying on labour force injections to drive growth become increasingly evident. Labour productivity, once again, became a priority for the government. In 2010, the Economic Strategies Committee (ESC) set a bold target of 2 to 3 per cent annual productivity growth for the decade leading up to 2020.[128]

[122] MTI, *Committee on Singapore's Competitiveness*, Nov 1998, p97.
[123] Ibid, pp99-102.
[124] Parliament of Singapore, "Annual Budget Statement", Feb 15, 2008.
[125] MTI, *Report of the Economic Strategies Committee*, Feb 2010, p65.
[126] Ibid.
[127] Parliament of Singapore, "Annual Budget Statement", Feb 15, 2008.
[128] MTI, *Report of the Economic Strategies Committee*, Feb 2010, p(i).

In the 2010 Budget Statement delivered the following month, the word "productivity" was mentioned 72 times—more than double the previous peak of 26 times (in 1983, after the 'wage shock therapy' years of 1979 to 1981, see **Figure 3**).

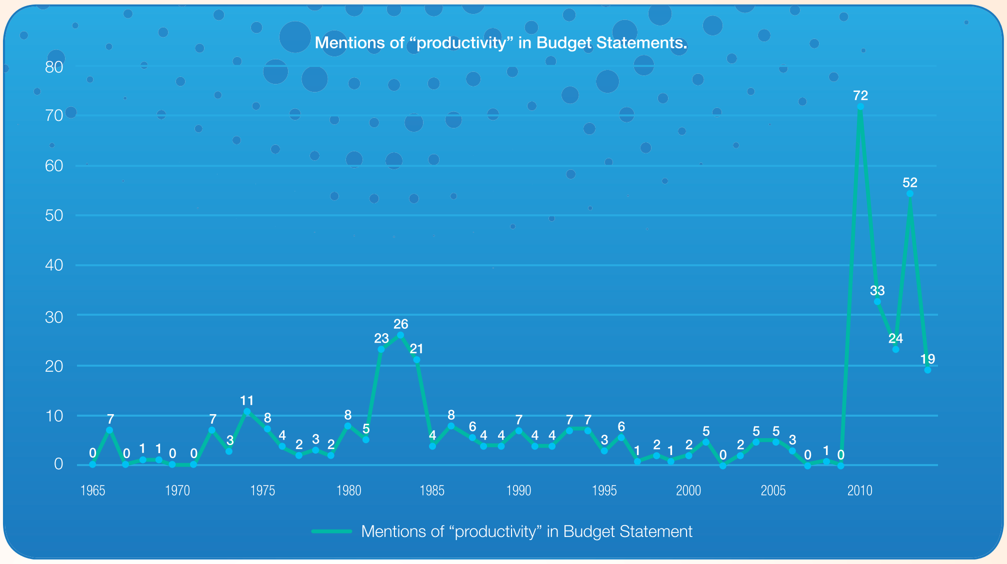


Figure 3 – Number of mentions of the word "productivity" in annual Budget Statements.[129]

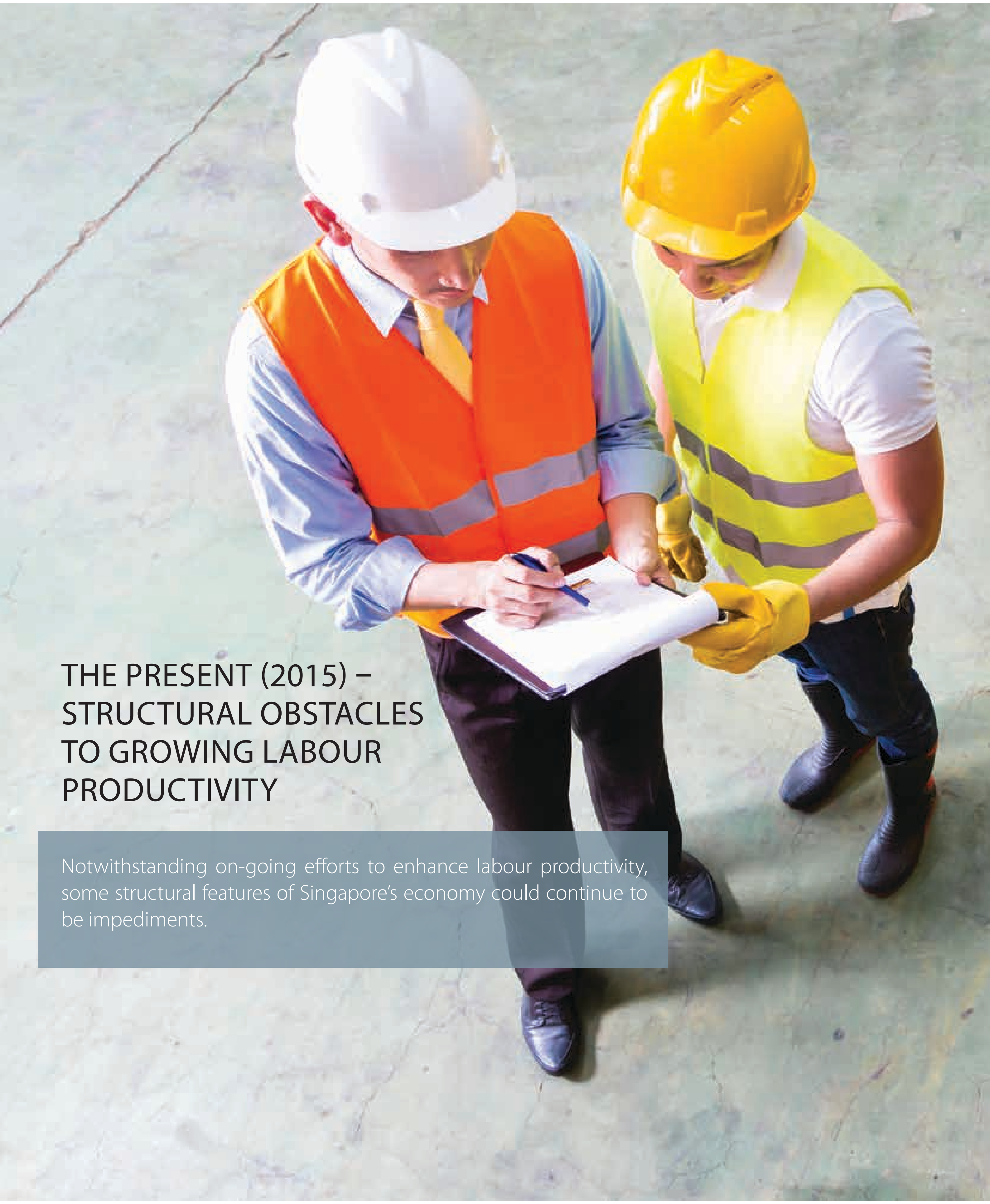
The 2010 budget also introduced a slew of measures to achieve ESC's labour productivity target and to "manage our dependence on foreign workers" including:

- An increase in foreign worker levies[130] to dissuade businesses from being over-reliant on foreign workers;
- A reduction in the growth of the foreign workforce;
- The setting up of the National Productivity and Continuing Education Council (NPCEC) to coordinate "the major national effort required to boost skills and enterprise productivity, and develop a comprehensive system for continuing education and training;
- An enhancement to the Workfare Income Supplement (WIS[131]) to encourage older workers to stay in the workforce; and
- The introduction of a generous, broad-based Productivity and Innovation Credit (PIC) to encourage businesses to make investments to enhance business value and processes.

See also

Appendix 5: Summary of productivity-related measures introduced since 2010
Appendix 6: Shifting societal attitudes towards foreign labour

[129] Parliament of Singapore.
[130] A (per headcount) monthly fee payable to the Ministry of Manpower by businesses that hire foreign workers, first introduced in 1986 as a way to manage the demand for foreign labour.
[131] An income supplement programme designed at first for lower income workers, with both CPF and cash components. WIS effectively functions like a negative income tax.



THE PRESENT (2015) – STRUCTURAL OBSTACLES TO GROWING LABOUR PRODUCTIVITY

Notwithstanding on-going efforts to enhance labour productivity, some structural features of Singapore's economy could continue to be impediments.

Dependence on foreign labour and labour force growth

With past decades of growth supported by a rapid rise in foreign labour, some have argued that Singapore's economic model has become structurally dependent on foreign labour for growth. Tackled decades earlier, this problem might have been easier to solve.[132]

Many policymakers did not expect the rapidity with which economic growth has become dependent on foreign labour. Remarking that Singapore could not possibly accommodate a doubling of the foreign workforce then, Prime Minister Lee Hsien Loong said in 2008:

> *"We already have almost a million foreigners working here and* ***we cannot imagine simply expanding year after year and one day having two million foreigners working in Singapore****. We just do not have the space for that… If you have two million foreign workers, I think we do not have enough Serangoon Gardens [to build dormitories for these workers]."*[133] *[Emphasis added]*

Yet, the 2013 Population White Paper released less than 5 years later projected that Singapore's non-resident (i.e. foreign) population would have to reach 2.1 to 2.7 million by 2030 in order to support the country's continued economic growth.[134]

This was also the case in 1991, when the government did not expect the population to grow as fast as it did in the coming decades, or for GDP growth to be so reliant on labour force growth. A government report issued that year projected that even with significant immigration, Singapore's population in 2030 would reach only 4.4 million[135], a figure that was exceeded 24 years ahead of schedule in 2006.[136] In fact, the report suggested that the government should aim for a lower target of 4 million by 2030 in order for there to be further room to grow beyond then.[137]

The same report also argued that because Singapore's economy was very dependent on the external environment, it was prone to "*large imbalances between labour demand and supply*", and recommended that if demand for labour deviated significantly from the available supply, the government could be "*more strict with*

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[132] Ashish Lall, "Singapore's Productivity: Déjà vu", Presentation at the Lee Kuan Yew School of Public Policy 10th Anniversary Conference, Oct 17, 2014. Ashish Lall, "Singapore's Productivity: Déjà vu", Presentation at the *Lee Kuan Yew School of Public Policy 10th Anniversary Conference*, Oct 17, 2014.
[133] Lee Hsien Loong, Speech at the NTU Students' Union Ministerial Forum, Sep 15, 2009.
[134] NPTD, *Population White Paper*, January 2013, p49.
[135] MTI, *The Strategic Economic Plan*, 1991, p4.
[136] Singapore Department of Statistics, "Time Series on Population (Mid-Year Estimates)".
[137] MTI, *The Strategic Economic Plan*, 1991, p48.

[industrial] promotional incentives[138] *or other fiscal measures" or "[a]llow wages to rise until a shake-out, possibly through a recession, takes place".*[139]

While a dependence on foreign labour might not have an impact on labour productivity *per se*, on hindsight it appears that sectors that relied the most on low cost foreign labour were also laggards in labour productivity. Then-Minister for Finance Tharman Shanmugaratnam said in his 2013 Budget Statement that:

> *"[T]he basic reality is that these sectors which are most dependent on foreign workers are also the ones furthest behind international standards of productivity, and which account for the lag in productivity in our overall economy."*[140]

This observation was in line with the warning issued decades earlier in 1979 by then-Minister for Trade and Industry Goh Chok Tong[141] when he launched the 'wage shock therapy':

> *"It [low wage labour] helps to sustain low-skilled, low productivity and labour intensive industries. These industries in turn can afford to pay only low wages which in turn, cause them to depend on more imported labour to keep their wage costs down."*[142]

On the link between imported labour and persistently low wages in some sectors, the government's stance has hardly been consistent in recent years:

- In 2006, then-Minister in the Prime Minister's office and then-Deputy Secretary General of NTUC[143] (now Minister for Manpower) Lim Swee Say said that low-skilled foreign workers kept wages low in certain sectors.[144]

- Also in 2006, then-Minister for Manpower (now Minister for Defence) Dr Ng Eng Hen said that it was only "partially true" that foreign workers kept wages down, and that the reality is that foreigners are needed to grow the economy.[145]

- In 2014, MTI refuted an opinion piece in the English daily suggesting that foreign workers suppressed local wages: *"Dr Tan [Kong Yam]'s suggestion that the inflow of foreign workers suppressed local wages before 2008 is not borne out by the facts… Local wage trends have hence been shaped*

[138] Even before independence, Singapore had started to use tax and fiscal incentives to attract foreign investments into Singapore. This practice continues today.
[139] MTI, *The Strategic Economic Plan*, 1991, pp105-106.
[140] Parliament of Singapore, "Annual Budget Statement", February 25, 2013.
[141] Subsequently Prime Minister.
[142] "Cheap labour 'shake out'", *The Straits Times*, June 9, 1979.
[143] National Trades Union Congress, the sole national trade union centre in Singapore.
[144] "Foreign workers keep wages low? Not totally true", *The Straits Times*, Oct 6, 2006.
[145] Ibid.

by employers' demand for labour, and not just the supply of foreign workers. Higher demand led to higher local wages, even when more foreign workers were employed."[146]

- Also in 2014, the Ministry of Manpower (MOM) said that the recently tightened foreign worker constraints, contributing to a tight labour market, would drive wages up for Singaporeans for the remainder of the year.[147]

Nevertheless, as part of the broader effort to boost labour productivity, the government has legislated what are effectively sector-specific minimum wages (officially termed Progressive Wage Model—PWM[148]) so that businesses would be forced to make more productive use of labour by paying more for it. In 2014, The National Environment Agency (NEA) introduced legislation that would require cleaning firms to obtain a mandatory license. As part of the licensing requirement, the cleaning firms would need to pay their cleaners a basic salary (i.e. before overtime) of at least $1,000 a month (the median was $850).[149] Also in 2014, the compulsory license for the security sector was updated to require licensee companies to pay their officers at least $1,100 a month (the median then was $800).[150] Some low-wage workers in the aviation and aerospace industry were also expected to come under the PWM by end-2015.[151] As can be seen from these examples, the legislated minimum wages are above the typical wages in these sectors, which could be an indicator that a significant proportion of such workers were underpaid.

The 2013 Population White Paper projected that Singapore was unlikely to stall the increase of its dependence on imported foreign labour, and that foreigners would eventually reach 2.1 to 2.9 million out of a projected population of 6.5 to 6.9 million in 2030.[152]

Going further, some have argued that Singapore needed to plan for a much larger population. Former CEO of the Housing Development Board (HDB) Liu Thai Ker suggested in 2014 that the country should plan in advance for a "sustainable" population of 10 million because "we cannot curb population growth after 2030 [of the 2013 Population White Paper]".[153]

To some extent, Singapore's growing dependence on foreign labour is unavoidable given its low and declining birth rate (1.29 in 2012[154]) if the country wants to avoid a population decline.

The two-tier economy

Because of Singapore's small and open economy, Singapore always had a competitive export-oriented sector dominated by foreign companies and a less competitive domestically oriented sector comprised mainly of smaller local companies. In 1961, the UN study mission led by Dutch economist Dr Albert Winsemius reported:

> *"Singapore's manufacturing industry can be divided into two groups. On one side, are a limited number of usually well managed factories, for the greater part subsidiaries of foreign firms. On the other side, there exist many small establishments characterized by low productivity."*[155]

The under-performing domestically-oriented sector is problematic because it uses a larger share of labour than its contribution to GDP, thus lowering overall labour productivity. This did not seem to be a problem that repeated government interventions could solve, as was highlighted by multiple government reports:

- MTI, 1991: *"This domestic sector has unfortunately not benefitted significantly from the influx of foreign investments, which bring with it the latest technology and management methods. Upgrading of this sector has been substantially below that of the internationally-oriented sector where the pressure of a much more competitive environment forces companies to upgrade or suffer the consequences."*[156]

- Singapore Productivity and Standards Board (PSB), 1999: *"Although the agricultural sector in Singapore is insignificant, the structure of the economy is still dualistic. The sectors which are exposed to international competition—manufacturing, financial & business services, and transport & communications—are much more productive than those primarily serving the domestic marketplace, i.e. construction,*

[146] "Local wages fell when economy was weak", *The Straits Times*, Aug 16, 2014.
[147] "Tight labour market likely to drive up wages: MOM", *TODAY*, Sep 16, 2014.
[148] PWM also specifies a 'wage ladder' detailing the responsibilities, the training required, and minimum pay for each job in the ladder.
[149] "Easier for cleaning firms to send staff for training: Balakrishnan", *TODAY*, May 7, 2014. Companies have until September 2015 to comply.
[150] "Security guards to get better salary, training", *TODAY*, Oct 29, 2014. Companies have until September 2016 to comply.
[151] "Progressive wage model plans for aviation industry", *The Straits Times*, May 8, 2014.
[152] NPTD, *Population White Paper*, January 2013, pp26-29, pp36-49.
[153] "Singapore should plan for population of 10m", *The Business Times*, Aug 1 Friday.
[154] Singapore Department of Statistics, "Key Demographic Indicators 2013". A birth rate per woman of 2.1 is generally accepted as the replacement rate whereby the population of a country would be stable.
[155] United Nations, p33.
[156] MTI, *The Strategic Economic Plan*, 1991, p(i)

and community, social & personal services." The report also analysed data showing that local small and medium enterprises (SMEs) lagged the productivity of both foreign MNCs and foreign SMEs in manufacturing, commerce, and services, with SME productivity in manufacturing less than one-third that of foreign MNCs. [157]

- MTI, 2003: *"Fundamentally, the new environment requires an innovative culture among these smaller domestic enterprises. Many of them lag far behind in terms of new ways of doing business."*[158]

A more recent analysis also confirmed that domestically-oriented sectors were hurting the performance of the overall economy. This MTI analysis of the causes of low overall labour productivity growth since 2010 (0.2 per cent per annum from 2010 to 2013) showed that while the productivity of export-oriented sectors grew 2.1 per cent per year from 2010 to 2013, the productivity of domestically-oriented sectors actually declined by 0.3 per cent per year over the same period.[159]

Entrenched business interests

Because migrant low wage labour had been relatively easy to hire in Singapore for decades, it has become ingrained as part of the business model for some companies.

After the 2013 Population White Paper was released, nine national chambers of commerce representing companies with billions of dollars of investments in Singapore wrote an open letter to then-Minister for Manpower Tan Chuan Jin (now Minister for Social and Family Development) to protest the curbs on foreign labour. The open letter was endorsed by several national chambers including the American, the British, and the European. Earlier in December 2012, the Singapore Business Federation (SBF) had also published a position paper

[157] Singapore Productivity and Standards Board, *ProAct 21: From perfecting the known to imperfectly seizing the unknown*, 1999, pp98-100.
[158] MTI, *Report of the Economic Review Committee*, February 2003, p131.
[159] MTI, "A sectoral examination of Singapore's productivity growth", *Economic Survey of Singapore Second Quarter 2014*, Aug 12, 2014, p10.
[160] "9 foreign chambers oppose labour curbs", *The Straits Times*, Feb 5, 2013.
[161] "Unionists repeat call to raise wage threshold for salary increments", *TODAY*, May 31, 2014.
[162] Ong Yanchun, "Singapore's Phantom Workers", *Journal of Contemporary Asia*, Vol. 44, No. 3, 2014, pp455-457.
[163] Ibid, p448.
[164] Transient Workers Count Too (TWC2), "Big hole in ground dug with big hole in worker's pay", Oct 24, 2014.

that said that restrictive labour policies could lead to higher business costs that would be passed on to consumers and other businesses[160] The processes and models that these businesses had built their investments upon in Singapore could prove ill-adapted if the labour environment changed.

In 2014, when union representatives called for the wage threshold below which workers would receive a 6% increase recommended by the NWC to be raised to $1,200 from the $1,000 of the previous year, the Singapore National Employers Federation (SNEF) objected and issued a statement that: "If their [employers'] wage cost increases continue to outstrip productivity growth, they may lose their competitiveness and their workers may also be affected."[161]

In addition, there have emerged in Singapore some companies whose business models are built around exploiting low wage foreign labour, especially in the construction sector. When the Ministry of Manpower (MOM) prosecuted 26 construction firms from November 2008 to December 2009 for falsely inflating their foreign workers entitlement quotas by listing 'phantom' or fake local workers as employees to meet foreign-to-local ratio requirements, only 9 of these 26 firms were found to have deployed their foreign workers for genuine work that they had, the others having sold their quota to other companies or hired their workers out to other firms (both illegal).[162] Principal contractors for construction projects have also been known to inflate the value of their projects in order to increase their foreign worker entitlement so that they could illegally re-deploy the surplus labour.[163] NGOs for migrant workers' rights have documented cases where companies have allegedly underpaid workers for both legal working hours and excessive and illegal overtime, resulting in situations where workers were paid as little as S$1.50 per hour.[164]

THE CURRENT OUTLOOK

With the halfway mark of the 10-year economic restructuring plan fast approaching, the growth in labour productivity has so far lagged the 2 to 3 per cent per annum target set by the ESC, averaging just 0.2 per cent per year from 2010 to 2013.[165] Moreover, some broad-based government incentives meant to promote productivity-enhancing investments have attracted significant amounts of fraud (e.g. through inflated expenditures) because of their large cash reimbursements.[166]

Despite these difficulties, the government seemed determined to continue with efforts to raise labour productivity. To measure productivity gains that may not be captured in the broad productivity statistics (defined by value-added per worker), the Ministry of Trade and Industry embarked on developing sector-specific indicators in consultation with various trade associations (indicators such as square metres constructed per man-day for the construction and revenue per square foot for retail).[167] To combat fraudulent claims under the productivity incentives, the tax authority set up a 9-member taskforce to audit suspicious claims.[168]

Reducing the economy's reliance on foreign labour will not come without costs. Not importing labour liberally to support economic growth means that the country's GDP will grow slower than it otherwise can. When some economists called for manpower policies to be relaxed in light of the worsening second quarter GDP figures for 2014, MTI responded that Singapore "*must… press on with restructuring in these sectors [with lower labour productivity]*."[169] Subsequently, when the International Monetary Fund (IMF) issued a warning that the less rapid rate of growth in foreign labour could hurt Singapore's potential growth and competitiveness, Senior Minister of State in the Prime Minister's Office and Deputy Secretary General of NTUC Heng Chee How said in a speech that a "U-turn" on the more restrictive manpower policy would "*erode the incentive for us to invest in upgrading our economy*".[170]

At the halfway mark of Singapore's latest decade-long productivity drive, there are yet no easy answers on how the tensions between the need for short term economic growth and long term sustainability can be resolved.

[165] "Is Singapore's competitiveness on the slide?", *The Straits Times*, Oct 28, 2014.
[166] "Govt to take firm action against fraudulent PIC claims: Tharman", *TODAY*, Nov 9, 2013.
[167] "Productivity measures being fine-tuned", *The Straits Times*, Nov 4, 2014.
[168] "Tax Cheats Target PIC Scheme", *The Sunday Times*, Apr 6, 2014.
[169] "MTI replies: Restructuring at a balanced pace", *The Straits Times*, Aug 2, 2014.
[170] "Manpower policies 'should not be relaxed'", *The Straits Times*, Oct 21, 2014.

APPENDIX 1:

WHAT IS PRODUCTIVITY AND WHY IS IT IMPORTANT IN SINGAPORE?

"Productivity isn't everything, but in the long run it is almost everything. A country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker."

- Paul Krugman, The Age of Diminished Expectations.[171]

Simply put, productivity is the efficiency with which resources (or 'input factors'), such as labour and capital, are converted into outputs such as goods and services. Productivity measures are expressed as a ratio of output to input factors. Outputs can be expressed in many different measures (such as number of widgets produced), but are commonly measured by market value (i.e. in money value terms) to enable international or inter-industry comparisons. Depending on the purpose of productivity measurement, output can be expressed as a ratio of the input factor that is of interest, such as per unit of labour, capital, or even land in order to judge how efficiently these factors are used. One of the most commonly used measures of productivity at a country level is 'value-added per worker' (alternatively called 'labour productivity', in units of dollars per worker). 'Value-added' in turn represents the 'value' that is created through an organisation's production process, and is equal to the difference between sales and the cost of generating those sales.[172]

In Singapore's context, 'value-added per worker' is what government officials usually refer to when they talk about 'labour productivity' statistics. Labour productivity is important to measure because it is closely related to individual incomes and, therefore, living standards. However, different government agencies might be concerned about different productivity measures. For example, the land authorities may measure how efficiently land is used by computing 'value-added per hectare'.

Although 'value-added per worker' is commonly used in Singapore to measure labour productivity, it can be argued that a more accurate measure of labour productivity is 'value-added per work hour'. However, the 'value-added per worker' measurement is more reliable in Singapore's context because work hour statistics gathered by the Ministry of Manpower are based on employer surveys and might not be very reliable.[173]

[171] Paul Krugman, *The Age of Diminished Expectations, Third Edition: U.S. Economic Policy in the 1990s* (The MIT Press August 8, 1997).
[172] In practice, value-added at a firm level is largely equal to wages plus profits plus depreciation.
[173] In late 2013, amendments to the Employment Act were to have included mandatory payslips (which would have properly accounted for working hours), but this amendment was delayed because of objections from businesses citing increased business costs. PAP MP Zainal Sapari said in parliament that the lack of mandatory payslips would allow irresponsible employers to cover their tracks when they underpay or flout the law ("Move for compulsory payslips deferred", *The Straits Times*, November 15, 2013). According to a survey by migrant workers' rights group Transient Workers Count Too (TWC2), as many as a quarter of a million foreign workers suffer from salary underpayment ("Issuing payslips 'will not add to employers' costs'", *Today*, November 20, 2013).

Improving productivity is important for a developed country like Singapore because its input factors are close to being fully utilised. In early stages of development, countries can grow their economies by mobilising under-utilised input factors—labour in particular. As more factors are utilised, the efficiency with which these are used (i.e. productivity) then becomes *the most important factor* in growing the economy. Further injection of labour inputs alone does not increase living standards even if it increases national income since that increase in national income has to be shared by a proportionate increase in the labour force. What matters for living standards is not total income but income per capita. In the long run then, as Krugman points out, the growth in standards of living within a country depends almost entirely on its ability to sustain productivity growth.

The following is a simple illustration of breaking down GDP growth into its various parts; Seen from the perspective of the labour factor, growth in GDP can be accounted for by an increase in the labour force and by an increase in the amount of 'capital' (e.g. machines) used by labour. But after accounting for increases of all input factors, there is usually an unexplained 'residual' called Total Factor Productivity (TFP) that is attributable to better technology, innovation, or better business processes that improve the efficiency with which resources are utilised:

APPENDIX 2:

HOW FOREIGN LABOUR CAN BE USEFUL TO A DEVELOPING ECONOMY

In a developing economy faced with a tight labour market, importing labour can give a quick boost to economic growth. Importing labour can also be useful where the indigenous labour force lacks certain skills needed for new industries and where it would take too long to develop these skills. After these new industries are established, the workforce can be localized through restrictions on importing more labour or through the transfer of skills and knowledge to locals. Having a pool of foreign labour can also be useful in times of economic crises when, theoretically at least, retrenchments can affect the foreign labour force first before impacting local employment.

The Singapore government also views foreign labour as a critical complement to the local workforce. The Ministry of Trade and Industry's (MTI) 2012 Occasional Paper on Population and Economy (September 25, 2012)[174] states:

> *"Given the improving educational profile and rising aspirations of Singaporeans, the number of Singaporeans willing to take up such less-skilled jobs will continue to shrink. By helping to fill these jobs, foreign workers thus play a complementary role to Singaporean workers. The complementary roles of local and foreign manpower facilitate the development of a healthy ecosystem of diverse industries, which lends resilience to our economy."*

At the higher-skilled end of the workforce, businesses could benefit from the diversity that comes with employing foreigners:

> *"As cities race towards the next phase of innovation, a diversity of talent helps companies to compete for business on a global platform and understand the needs of global clients. Global teams with a diverse set of experiences, perspectives and backgrounds are key drivers of innovation and new ideas. Some sectors that could benefit from having a diverse workforce include higher value-added sectors like finance and business services and research and development. It may be desirable for these sectors to have access to some foreign manpower, even as we develop capabilities among Singaporeans to take on good jobs in these sectors."*

[174] http://www.mti.gov.sg/MTIInsights/Pages/MTI-Occasional-Paper-on-Population-and-Economy.aspx (May 20, 2014)

APPENDIX 3:

THE GLOBAL ECONOMIC POLICY ORTHODOXY IN THE 1980s

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 also 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[175] (the report had in fact recommended it be cut even lower to 30%[176]). This was continually lowered over the years until it reached just 17% in 2010.[177]

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.[178]

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.[179] 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.[180]

175 Parliament of Singapore, "Annual Budget Statement", March 4, 1987.
176 MTI, *New Directions*, p89.
177 Parliament of Singapore, "Annual Budget Statement", January 22, 2009.
178 For example: "Pay rise without higher productivity 'dangerous'", *The Straits Times*, May 1, 2012.
179 Ha-Joon Chang, *23 Things They Don't Tell You about Capitalism*, January 2, 2011, p38.
180 Ibid, p41.

APPENDIX 4:

THE OBSESSION WITH ECONOMIC GROWTH AND HOW SINGAPORE'S POLICY STANCE ON THE ROLE OF FOREIGN LABOUR HAS SHIFTED

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. [181] 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."*[182]

The large pool of foreign labour, which helped to support economic growth (reaching 150,000 by 1984[183], out of a population of 2.7 million[184]), was supposed to be temporary because it was seen as inimical to social stability and good industrial relations.[185] Right before the 1985 recession, plans were still in place to repatriate (gradually but eventually) most of these workers—and to 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."*[186] *[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.[187] 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.**"*[188] *[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**."*[189] *[Emphases added].*

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[181] See p10.
[182] 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).
[183] Singapore Parliament, "Foreign Workers (Particulars)", March 14, 1984.
[184] Singapore Department of Statistics, "Time Series on Population (Mid-Year Estimates)"
[185] Singapore Parliament, "Foreign Workers (Particulars)", March 14, 1984.
[186] Parliament of Singapore, "Annual Budget Statement", March 8, 1985.
[187] MTI, *New Directions*, p109.
[188] Parliament of Singapore, "Annual Budget Statement", March 4, 1988.

- 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 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."*[190] *[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 savings 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.[191]

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.

[189] Parliament of Singapore, "Annual Budget Statement", March 3, 1989.
[190] Parliament of Singapore, "Annual Budget Statement", March 2, 1990.
[191] Parliament of Singapore, "Annual Budget Statement", March 4, 1988.

APPENDIX 5:

SUMMARY OF PRODUCTIVITY-RELATED MEASURES INTRODUCED SINCE 2010

Manpower

- National Productivity Fund, 2010:
  - A government fund of S$2 billion to support initiatives for increased labour productivity.
  - For the first five years, inject S$1 billion over 5 years to be given to enterprises in all sectors with a special emphasis placed on sectors where there is a large potential for productivity increase.
  - In 2011, fund doubled to S$2 billion.
  - S$250 million dedicated to raising productivity in construction and helping local contractors develop skills in civil engineering projects, with a target to increase value-added per worker by 20% by 2015.

- National Productivity and Continuing Education Council, 2010
  - Develop a comprehensive system for continuing education and promote close collaboration amongst businesses, workers and unions, and the government.
  - Target to have 50% of the population with a diploma by 2020 (compared to 36% in 2007) by expanding the CET program and aim to train 240,000 people by 2015 from 80,000 in 2010.

- Continuing Education and Training (CET), 2010
  - S$2.5 billion allocated for 2010-2015 to develop Continuing Education and Training (CET) to develop competence in more complex tasks and mastery of skills and expertise in all trades.
  - Strengthen links between Workforce Skills Qualification (WSQ) and skills gained through post-secondary/ tertiary education.
  - Increase capacity and quality of CET for professionals, managers, executives and technicians (PMETs) by 60% by 2015.
  - Ministry of Manpower to introduce umbrella program for PMETs called Skills Training for Excellence Program (STEP).
  - Increase subsidies for Singaporean students completing part-time diplomas at polytechnics, CET centres, or universities so that they receive the same percentage cost subsidy as a full-time student. An approximate 30,000 students to qualify for these subsidies.
  - Top up Life Long Learning Endowment Fun (LIEF, established in 2002) by S$500 million in 2013, to ensure long-term funding for CET.

- Workfare Training Scheme, 2010
  - Complement WIS (Workfare Income Supplement) with a 3-year programme that will provide employers with 90-95% funding for absentee payroll and course fees to encourage training of workers.
  - Develop a structured training program for low skilled workers and the unemployed.
  - Provide workers with a cash grant once their training is complete in order to recognize their efforts to up-skill.

- Progressive Wage Model, 2012 (gradually being introduced in more sectors e.g. security, aviation, cleaning)
  - Increase workers' pay in accordance with the upgrading of their skills (e.g. cleaner's wage can rise from S$1000 to S$1400 once they learn how to use motorized equipment).

- Construction Productivity and Capability Fund, 2014
  - S$67 million allocated to help over 1,600 companies adopt new technologies and train workers.

- S$60 million to support manpower and leadership development programs, 2014
  - Employees encouraged to expand their skills and develop cross-functional skills, as well to obtain regional knowledge and experience.

- Raising foreign worker levies, 2010
  - Encourage companies to up-skill their workers and improve labour productivity.
  - Gradually phased in to give companies a clear incentive to upgrade while giving them time to restructure their businesses.
  - From 2010-2012 increase average levies per worker in Manufacturing and Services by S$100 and S$130 in Construction.
  - Further raise levies in Manufacturing to S$160, in Services to S$180 and in Construction to S$200 by 2013.
  - Introduce levy for S Pass holders to S$300- 450 by 2013 and raise minimum monthly salary required to qualify for S Passes from S$2000 to S$2200 from 2013.
  - Introduce tiered system so that older and more qualified workers need a higher salary in order to be eligible for S Passes.
  - From 2013, tightened eligibility requirements for Employment Pass holders.

- U Flex Family-Friendly Grant, 2014
  - Government to allocate S$500,000 in 2014 towards helping companies to implement family-friendly and flexible working arrangements so that housewives (and other potential part-timers) and older people to rejoin the workforce.

Innovation

- Committed S$16 billion to R&D from 2011-2015, set aside S$735 million in scholarships and fellowships to attract new talent and introduce greater competition- based funding to encourage innovation.

- SPRING- ICV 2012
  - Innovation and Capability Voucher (ICV) programme provides eligible SMEs with a S$5,000 voucher to upgrade and strengthen business operations. 800 SMEs benefitted from 2012 to 2014.

- Initiatives for Industry Wide Collaboration, 2013
  - Support Collaborative Industry Projects where firms can share industry-specific solutions to productivity challenges.
  - Foster SME collaborations with larger firms to allow for co-innovation.

Tax

- Growth through mergers and acquisitions, 2009
  - Encourage the continuous flow of start ups and new entrants into the economy and allow the most efficient and competitive players to grow organically or through mergers and acquisitions.
  - Offset a portion of the acquisition costs for five years with a one-off tax allowance scheme that equals to 5% of the value of the acquisition capped at S$5 million a year.

- Productivity and Innovation Credit (PIC), 2010
  - Allow companies to claim a 250% (increased to 400% in 2011) tax deduction if they invest in R&D (including R&D expenditure abroad from 2011), Automation, Retraining, Acquisition and Registration of Intellectual Property, or Design Activities with tax deductions capped at S$300,000 (increased to S$400,000 in 2011)
  - Allow businesses to convert up to $100,000 of PIC credit on their first investment into a cash grant of up to $21,000 (increased to S$30,000 in 2011) to allow business with small taxable incomes to grow by upgrading and investing in technology.
  - In 2013, a PIC Bonus was introduced where businesses that spend more than S$5000 on expenditure that is covered under PIC, will receive a dollar- for- dollar matching cash bonus. The bonus will be up to S$15,000 from 2013-2015.

- Land Intensification Allowance, 2010 (to replace outdated Industrial Building Allowance from the 1940s)
  - Give tax allowances to businesses with large land take and low Gross Plot to support land productivity and encourage land intensification.

- Corporate Income Tax Rebate and SME Cash Grant, 2011
  - 20% corporate income tax rebate, capped at S$10, 000 (increased to a 30% rebate up to S$30 000 per year in 2013).

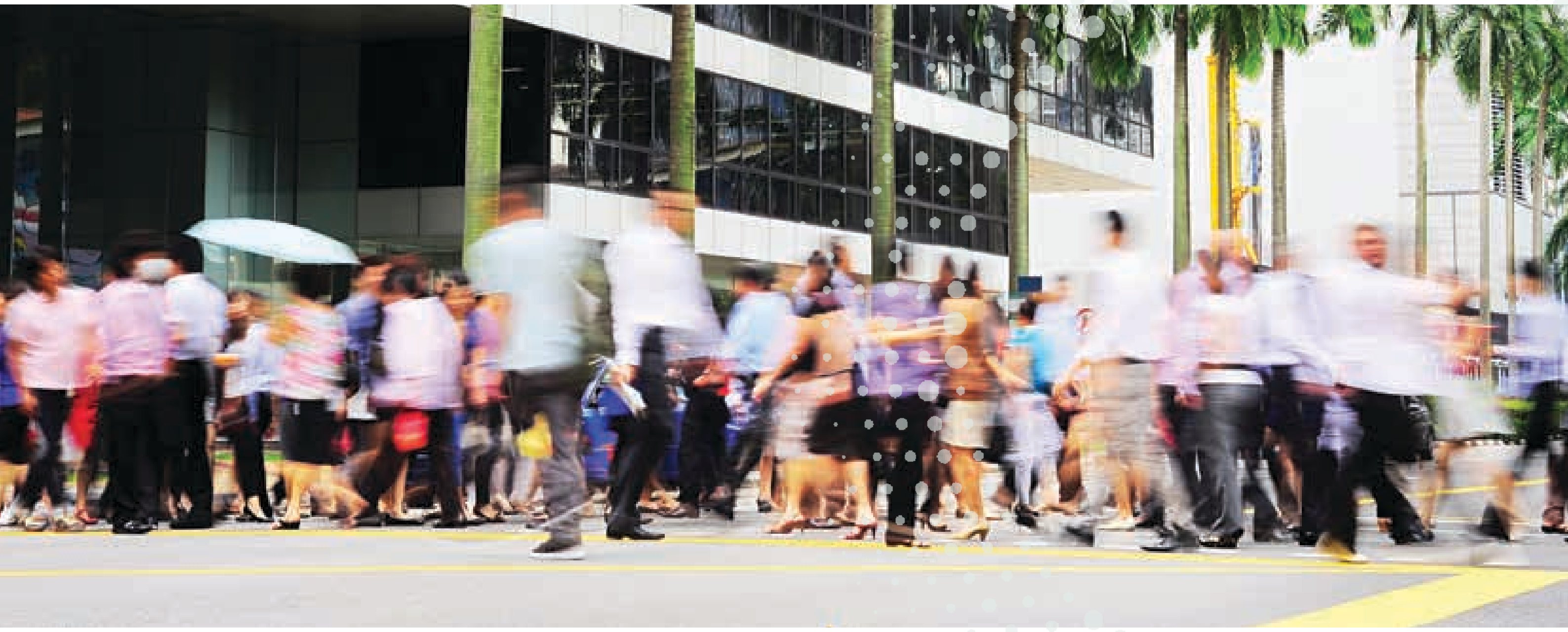
Wages

- Workfare Income Supplement (introduced 2007, enhanced 2010)
  - Qualified older low-wage workers to encourage them to stay in the workforce.
  - Increase payouts from S$150 to S$400 with more going to older workers.
  - Extended eligibility to people earning S$1,700 a month, up from S$1,500, to ensure as workers upgrade skills, WIS benefits do not decrease.
  - o Cost S$100 million per year, target to benefit 400 000 low wage workers.

- Wage Credit Scheme, 2013
  - A government subsidy that co-funds 40% of pay increases given to Singaporeans earning a gross monthly wage of S$4000 and below, to help companies raise productivity by retaining good workers; To cost S$3.6 billion over three years.

APPENDIX 6:

SHIFTING SOCIETAL ATTITUDES TOWARDS FOREIGN LABOUR



Although Singapore started out as a nation of immigrants, as Singapore imported more foreign labour to support its economic growth, the attitudes of the general population towards the rising proportion of newer immigrants have shifted somewhat over the years. Most prominently, in 2008 more than 1,400 residents in Serangoon Gardens housing estate signed a petition to the government to protest the opening of a nearby foreign worker dormitory designed to house 1,000 workers, citing the risk of higher crime rates and lower property values.[192]

In 2013 after the government released the Population White Paper, about 4,000 Singaporeans turned up at Hong Lim park (the only space in Singapore where public protests are legal) to express their displeasure at the projected population by 2030 of 6.9 million.[193]

There have also been recent incidents of social unrest attributable to the rising proportion of foreign labour in Singapore. In Nov 2012, 102 Chinese-national bus drivers working for SMRT went on a wildcat strike over pay, the first strike in Singapore in 25 years.[194] In Dec 2013, a road accident in the Little India neighbourhood that resulted in the death of a 33-year-old Indian national sparked off a riot involving 400 people (comprised mostly of South Asian nationals) who threw stones at and set fire to emergency vehicles, and who attacked emergency responders.[195] This incident sparked off much xenophobic comment online which Prime Minister Lee Hsien Loong condemned as "hateful".[196]

[192] "Serangoon dorm opens, fuss-free", *My Paper*, Dec 7, 2009.
[193] "4,000 turn up at Speakers' Corner for population White Paper protest", *Yahoo! News Singapore*, Feb 16, 2013.
[194] "Bus drivers in Singapore's first strike in 25 years", *AFP News*, Nov 28, 2012.
[195] "Singapore's Angry Migrant Workers", *The New York Times*, Dec 27, 2013.
[196] Statement on Facebook, Dec 9, 2013. (https://www.facebook.com/leehsienloong)

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