

# WORKING DRAFT

## DEVELOPMENT STRATEGY: DESIGNING MARKETS & GROWTH

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“If our experience can be used as a general guide to policy in other developing countries, the lesson is that the free enterprise system, correctly nurtured and adroitly handled, can serve as a powerful and versatile instrument of economic growth”

Dr Goh Keng Swee, *Economics of Modernization*

### INTRODUCTION

When Singapore attained self-government in 1959, the setting could hardly have been less auspicious. Singapore was a small island, with no natural resources, no hinterland to fall back upon, gripped with an endemic problem of mass unemployment and poverty. Yet between 1960 and 2005, GDP grew by 90 times to its current level of \$194 billion, while per capita GDP increased by 34 times to \$44,700. How did Singapore overcome seemingly insurmountable odds to generate such rapid growth?

### DEVELOPMENT STRATEGIES

Around the world, economists and policy-makers have long grappled with the question of how a country can “take-off into self-sustained growth”. The phrase, first coined by economist Walt Rostow in 1960, conjures vivid images of an airplane trundling down an airway at an accelerating pace, and eventually taking off into effortless flight. The search for effective ways to bring about sustained growth, however, has been far from effortless. This is not for want of trying or lack of ideas. With rapid decolonization after the Second World War, newly emerging countries were keen not just to cast off their colonial status, but also to leave poverty behind and move up to first-world standards of living. In 1961, the United Nations resolved that the 60s

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would be the “Decade of Development”. The push for development led to a proliferation of ideas on sustaining growth and alleviating poverty. The prescriptions for economic growth came in waves, varying with the changing fads of development thinking, but none has delivered as promised<sup>1</sup>.

In the 60s, for example, capital accumulation and import substitution were the rallying cries of economic reformers. The thinking was that poor countries were caught in poverty traps, out of which they needed a “big push” involving increased investment. This provided the justification for foreign aid to fill the financing gap between saving and the required investment to help kick-start the economy. Unfortunately, the results fell short of expectations. Countries that received high injections of investment and foreign aid generally failed to take-off. In some cases, it was not just an absence of growth, but serious retrogression.

By the 1990s, a consensus had emerged that there was no silver bullet for economic development – sustained growth was dependent not on a single policy measure, but a combination of different factors. In this regard, a convergence of views had developed around a set of policy principles termed the “Washington Consensus”, a name that economist John Williamson gave in 1989 to a list of ten policy recommendations for countries seeking to reform their economies. These recommendations centred on market-oriented reforms such as fiscal discipline, competitive exchange rates, trade and financial liberalisation, privatisation and deregulation, and were incorporated into policy programmes supported by multilateral agencies like the World Bank and IMF.

The ideas embodied in the Washington Consensus have had a major influence on the reforms of many countries. However, the debate on development is far from resolved. While the Washington Consensus

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<sup>1</sup> In his book, the *Elusive Quest for Growth*, former World Bank economist William Easterly provides an account of how development thinking has evolved over the years, in pursuit of the “holy grail” of sustained economic growth

provides a systematic way for policy-makers to think about the complementary reforms needed for economic growth, there are several key gaps still not addressed.

First, what should governments do in the reform process? The policies in the Washington Consensus are intended to roll back the reach of the state. The underlying assumption is that once the government has put in place the basic conditions, it should just stand back and allow industries to flourish. But this is not likely to happen in the real world, as there are many uncertainties to manage, and differing objectives to balance. Under such circumstances, governments can and should play an important role, for example, in building policy consensus among the key players, managing the risks of reforms, and making course corrections as events unfold.

A second and related issue is how the reforms should be implemented and sequenced. Some advocate a “shock therapy” or “big bang” approach to policy reforms (i.e. implement as many reforms as quickly as possible), while others favour a more graduated pace of implementation. Besides speed, getting the sequence of reforms right is also critical. For example, the 1997 Asian Financial Crisis showed that countries have to strengthen their financial supervision and prudential safeguards first before fully liberalising their capital accounts, in order to reap the benefits of improved resource allocation and reduce instabilities caused by herd instincts in financial markets.

Third, there is growing recognition among economists that market-oriented policies alone may be inadequate if they are not buttressed by robust institutions to ensure the smooth functioning of markets. Broadly defined, institutions are the rules of the game in society; they can be both informal (e.g. norms and moral codes) and formal (e.g. rules and laws). Institutional arrangements will vary from country to country due to differences in social preferences, and geographical and historical conditions. Each country must therefore customise its own

strategies to create an institutional framework that enables the market to work, and so generate the right incentives for growth.

How has Singapore tackled these development challenges? Our approach has often been described as pragmatic, focussing more on results than ideology or dogma. Indeed, Singapore's development path was very much a process of learning by doing, with constant adjustments to changing conditions. When asked in 1992 if he had started out with an overall grand design in mind, Dr Goh Keng Swee, the first Finance Minister of Singapore, also widely acknowledged as its economic architect, replied, "I had no initial vision. You just start it and hope for the best." In many respects, Singapore moved forward with an open-minded, experimental approach, inventing along the way, tackling challenges and seizing opportunities as they came. But success was not all based on serendipity and happenstance. A closer examination reveals a logical consistency and pattern underlying Singapore's development strategies. This chapter will examine how Singapore has transformed its economy, the role the Government has played, and the institutions it has built and nurtured to facilitate this process.

## PRO-GROWTH, PRO-MARKET

At the core of Singapore's approach to economic development is the fundamental belief in the primacy of economic growth. Many countries have a mixed bag of economic development objectives, such as poverty alleviation, equitable income distribution or local industry development, alongside economic growth. In Singapore's case, growth is the primary aim and the principal way to achieve all the other objectives.

This sharpness of focus on economic growth is premised on the rationale that growth would help to create jobs, improve living standards, and generate the resources needed to tackle all other problems. Growth *per se* of course is not a panacea for a better life – there are cases where social indicators have not improved despite

sustained growth over a period of time. But the historical record around the world shows that no policy tool has worked better than economic growth in enabling societies to improve the life chances of their members, including those at the very bottom<sup>2</sup>.

In 1977, Dr Goh, looking back at how Singapore had survived the tumultuous years after independence, highlighted that the rapid growth generated by industrial expansion had helped to solve many acute social problems. As he put it, “despite the current prejudice against fast economic growth in some Western intellectual circles, its importance in poor countries remains undiminished. Fast economic growth produces visible results...as a result, public morale is increased and national unity and confidence strengthened”

Singapore’s rapid development over the years has not diluted this emphasis on growth. The Government’s approach is to grow as fast as possible when conditions are favourable, so that when conditions get tough, there will be sufficient resources to weather the storm. As highlighted by Prime Minister Lee Hsien Loong in his 2005 National Day Message, “economic growth is the best social welfare programme. Prosperity provides us the resources to tackle many difficult challenges.”

The emphasis on growth is supported by coherent and mutually-reinforcing policies. On the macro-economic front, the Government pursues prudent fiscal and monetary policies. It spends within its means, avoids budget deficits and has progressively lowered direct taxes to stay competitive. It also maintains a stable dollar and low inflation rates. Taken together, these policies ensure a stable and predictable macro-environment conducive to creating and sustaining growth.

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<sup>2</sup> The impact of growth is evident in a comparison between Africa and Asia. Economic historian Sala-i-Martin has noted that in 1970, 11% of the world’s poor were in Africa and 76% in Asia; but by 1998, Africa’s share of the world’s poor had increased to 66%, while Asia’s had declined to 15%. Sala-i-Martin concludes that “poverty reduced remarkably in Asia because Asian countries *grew*...poverty increased dramatically in Africa because African countries *did not grow*. Thus, a central question economists interested in human welfare should ask...is how to make Africa grow.”

In terms of micro-economics, the Government adopts a market-based system to bring about economically optimal results, with minimal distortions and wastage. To the fullest extent possible, price signals are used as the predominant mode of resource allocation. Goods and services are priced properly, especially key factors like energy and land. The labour market is freed up with minimal restrictions, so that there is flexibility for companies and workers to adjust to changing market conditions. Economic rents from monopolies and privileged business interests are avoided, and opportunities for rent-seeking minimised. Government rules are transparent and strictly enforced, to facilitate fair competition and make it easy for companies to navigate, instead of adding to the regulatory burden.

The Government's philosophy is that personal motivation and rewards are essential for a dynamic and productive economy. The market serves this purpose, because it rewards individual effort and enterprise, thereby reinforcing the culture of self-reliance, strengthening the motivation to work and the drive to excel. Hence, the market is used extensively in the management of traditionally public functions. Whether in healthcare, housing or land transport, market mechanisms are applied extensively and integrated with public programmes.

One example is the pervasive use of co-payments. The objective is partly to prevent over-consumption, but it is also psychological, to foster the mindset that nothing is for free, and that services are provided based on the user's willingness to pay. The motivation for this goes back to 1959, when the Government inherited a system of free medicine, a legacy of the National Health Service (NHS) from the British. While the scheme started out with good intentions, the result was over-consumption and widespread abuse. Eventually, the Government imposed a small fee, to make sure that people paid for their medicines. This helped to encourage individual responsibility and considerably reduced the wastage.

However, the Government is no blind adherent to market fundamentalism. It recognises that first-best market solution may not always be feasible, nor desirable. In some instances, it may be better to go for a workable compromise that achieves a large part of the intended objectives, while leaving aside the more intractable problems to be resolved at a later stage. In public housing, for example, the Government did not adopt the purist market-based approach of giving out housing vouchers. Instead, it decided to build houses first, and sort out the markets later. Hence, the Housing Development Board was set up to implement a massive public housing programme. As Chapter 9 on public housing illustrates, without the pioneering work of the HDB, Singapore would not have the same quality of public housing today, or the same social outcomes that have been engineered into the public housing schemes.

This unique combination of a pro-market and pro-activist development approach has evolved over time, shaped and reinforced by Singapore's experience.

When the PAP government won the elections in 1959, one of its most important tasks was to grow the economy and provide jobs for a fast-growing post-war population. The PAP's statement of policy, "The Tasks Ahead", put it in no uncertain terms: "Although unemployment is a serious problem now, it is trivial when compared with what would happen after 1962 if no steps are taken now to expand the economy and increase opportunities for work."

The Government was convinced that some form of positive state action was required to kick-start the economy, having experienced the outcome of laissez-faire policies during the colonial era which had led the country to a dead end, with little economic growth, massive unemployment, wretched housing and inadequate education. It wanted to build on the traditional strong points of the economy, like entrepot trade and related supporting services. But these activities alone could not provide sufficient jobs for the rapidly growing post-war population. Furthermore, unlike countries with an agricultural sector which could absorb surplus workers, Singapore's urban

economy had no such respite – the land, then 580 square kilometres at low tide, was too small to provide an agriculture refuge for the unemployed.

The stock remedy was to industrialise, but how to do this? The common wisdom of economic development in the 60s was import substitution. Similarly influenced, the Government looked to create its own industrial base. But Singapore had no natural resources, and its domestic market was too small to support local activity. Hence, the solution was to create a Common Market, as part of the political merger with Malaysia. This would result in a combined internal market of 10 million people, thereby providing the critical mass for industrialisation to be viable. In support of this initiative, the Government drew up a host of complementing policies, including tariffs on imports to protect domestic industries.

However, the idea for a Common Market fell through following Singapore's separation from Malaysia in 1965. Subsequently, Indonesia's *Confrontasi* cut off Singapore's southern hinterland, threatening its traditional role as a major trading post for the region. A bigger blow was to come in 1968 with the withdrawal of British troops from Singapore, leaving thousands of Singaporeans out of a job, and bringing a fifth of the economy to a halt.

Under these circumstances, industrialisation could only succeed if Singapore tapped on external markets, with firms producing goods not just for domestic or regional consumption, but for the world economy. The Government therefore made a strategic decision to liberalise, open up the economy, and embrace a market-based system. Over the years, it has endeavoured to keep the overall tenor of the economy and society geared towards the free flow of investments, talent, and ideas.

At the same time, the Government was not completely hands-off. It continued to play an active role in promoting industrialisation and generating growth. At the basic level, the Government embarked on

an extensive programme to build new infrastructure, and improve on existing ones. It also created new agencies like the Economic Development Board (EDB) to spearhead the industrialisation process. On top of that, the Government took direct action to transform the economy by involving itself in the ownership and control of enterprises. In making these interventions, the Government sought to act within the market framework to the furthest extent possible. The aim was not to distort market outcomes, but to correct market failures and to make the market work better. In short, the approach was state activism that went with – rather than against – the grain of the market.

The Government has also intervened to even out the results of unbridled competition, and temper the market system with social equity. Notwithstanding the virtues of the market, the Government recognised that excessive reliance on market forces would lead to widening inequalities and rising social tensions. While the country would benefit as a whole, some citizens would be adversely affected, while others would have difficulty coping, especially in the short-term. To give every citizen a stake in the country and its future, the Government has heavily subsidised the provision of housing, education and basic healthcare, and enhanced Singaporeans' assets. This has helped the lower-income progress with the rest of society, and enabled the Government to maintain broad-based support for its market-based pro-growth policies.

Overall, the Government's role in development can be broadly categorised into four areas: (i) fostering structural transformation of the economy; (ii) nurturing enterprise; (iii) building consensus and trust; (iv) creating institutions. The following sections examine each of these in turn.

## FOSTERING STRUCTURAL TRANSFORMATION

40 years ago, Singapore manufactured garments, textiles, toys and mosquito coils. Today, it is a high-end manufacturing base for disk

drives and semi-conductors, a world-class centre for chemicals and biomedical science, and a regional hub for finance, logistics, shipping and transport. At each stage of Singapore's development, government policies have helped to drive structural change and transformation of the economy, thereby creating a series of continuous growth episodes.

Economists Dani Rodrik and Robert Hausman have shown that the process of structural transformation in an economy is unlikely to take place under laissez-faire conditions because of market imperfections. One source of market failure occurs when the demand for a particular activity depends on whether other complementary activities are already in place, thereby requiring some form of central coordination. Another source of market failure occurs when there are information and learning spillovers. In other words, as private entrepreneurs are unlikely to take into account the broader social benefits generated by their actions, there will be under-investment in new and innovative activities. Hence, a deliberate and well-articulated strategy of fostering structural transformation involving government action is more likely to produce results than one where the government plays a limited role.

But while there may be scope for intervention by the state, it is less clear what the government should do to transform the economy without setting off economic distortions and wasteful rent-seeking behaviour? Singapore's experience suggests two key guiding principles. First, ensure proper incentive design and structure. The government generally avoided subsidising new investments with direct grants, as this was more likely to distort private risk assessment and result in moral hazard. Instead, it relied largely on tax concessions, with the incentive made contingent on the company's performance, i.e. its profits. This market mechanism helped to discipline incentive recipients, ensuring that resources were allocated to productive areas.

Second, identify and encourage activities consistent with the country's comparative advantage. The Government focussed its

promotion efforts on activities that were consistent with Singapore's evolving capabilities and strengths. It started with labour-intensive electronics initially, and subsequently moved up the value chain to more capital- and knowledge-intensive industries like electronics, chemicals, biomedical sciences, for which Singapore had advantages in. How did the Government pick these "winners"? There was no clear-cut or pre-determined path. It was more a process of discovery and experimentation. Former civil servant Ngiam Tong Tow, who worked with Dr Goh and the pioneering generation of political leaders, described it as "finding niches and seizing opportunities". To minimise the risk, each attempt to develop a new growth sector was made after careful deliberation and consultations with external consultants and industry players. The ultimate market validation came from the MNCs themselves, when they decided to make major investment commitments in new areas. These anchor projects would then provide the foundations upon which clusters of new economic activities were built.

Singapore's development history shows how this process of economic discovery evolved, and the role that the Government played in facilitating it. Not every move by the Government worked as intended, and there were instances of missed opportunities. But where mistakes were made, the Government learnt from them, took corrective action quickly, and adjusted its course. The rest of this section examines Singapore's post-independence history, examining five distinct phases in its development.

### **1965 – 75: Export-Oriented Industrialisation**

After the Government made the strategic shift away from import-substitution in favour of export-led industrialisation, it succeeded in getting several industrial projects started. But they were small, simple and rudimentary, and did not deliver jobs and investments of the scale that Singapore needed. The Government decided that the best vehicle for achieving industrial growth was the large multinational companies (MNCs). The conventional wisdom at the

time was that MNCs were exploiters of cheap land, labour and raw materials. But there was a real-life problem to solve, and the reality was that the MNCs brought with them not only production and management know-how, but also access to the world market for their products.

Courting the MNCs, however, proved to be hard work. Although there were successes, they were few and far between. The breakthrough came when Singapore secured its first few American MNCs. As Chan Chin Bock, the first representative to head EDB's office in America, recounted, Singapore got lucky in its efforts to bring in investments from semiconductor companies in Silicon Valley. At the same time that Singapore was making overtures to these companies, they were exploring labour cost assembly locations in Asia for competitiveness and better profits. When National Semiconductor decided to set up in Singapore in 1968, news spread quickly throughout the tightly-knit community of Silicon Valley. Other semi-conductor companies like Fairchild and Texas Instrument followed soon after. The next major coup was in getting a series of investments from General Electric (GE), for electrical and electronic products. Because of GE's standing as a global conglomerate, its investments raised Singapore's profile and strengthened confidence in its ability to host production facilities. Other American companies like Hewlett Packard soon followed. These firms helped to pave the way for the development of Singapore's electronics cluster.

For EDB to succeed in its investment promotion efforts abroad, the home team had to deliver on the promises made to investors. The Government moved quickly to put in place infrastructure services and facilities to establish Singapore as an oasis for MNCs. It actively developed industrial land and co-ordinated the rapid expansion of all related services like utilities, transport and communications. One significant move was the transformation of Jurong from an area of mangrove swamps and marshes into Singapore's first industrial estate to attract new industries. It was a massive project, and Dr Goh who initiated it himself openly admitted that it was an act of faith which

could prove to be “Goh’s folly”. But it soon proved to be a far-sighted move.

**Box 1: EDB - One-Stop Shop**

When the PAP Government outlined its plans to promote industrialisation in 1959, one key strategy was the establishment of an Economic Development Board (EDB) to lead the overall effort. This was brought to fruition two years later. In introducing the Bill in Parliament in 1961 for the formation of EDB, Dr Goh said, "To bring about...economic transformation, on which our survival depends, the Government cannot adopt a purely laissez faire attitude. Nor can it play a simple administrative role of just maintaining civil stability and providing the basic essential services. To initiate the road to industrialisation, the Government has to play a positive and direct role. The Economic Development Board (EDB) which we seek to set up under the authority of the Bill now before the House will be the agency of Government to direct this transformation of Singapore's economy."

In the early years, EDB endured hard legwork to convince investors that Singapore was a good place for business. Many CEOs then did not even know where Singapore was located. But EDB quickly learnt how to hustle and sell for Singapore. It opened overseas offices, made cold calls on companies, and interacted with CEOs to understand their requirements. EDB was staffed with pool of bright and committed officers, many of whom were the cream from the pool of government scholars. They learnt on-the-job, and were willing to work hard and fight for Singapore's economic survival. Sometimes the officers had to call on 40 to 50 companies before getting one to visit Singapore. This never-say-die, "can-do" spirit has animated the organisation till this day.

EDB's early successes resulted in such a mounting volume of work that the over-worked organisation soon had to break up its components into specialist agencies. The Jurong Town Corporation (JTC) was created in 1967 to take over the responsibility for industrial land and estates. The Development Bank of Singapore (DBS) was incorporated in 1968 to take over the financing activities.

Over the years, EDB's focus has changed from labour-intensive to capital-intensive activities, in keeping with the different phases of Singapore's economic development. But through it all, EDB's mission remains the same – to sell Singapore as a total business centre for value-added industries and services, bring in investments, and so create jobs for Singaporeans.

Today, the EDB continues to be the key institutional link that supports the range of economic incentives geared towards attracting foreign investments into Singapore. It serves as a one-stop centre for investors, providing them with information on the opportunities available in Singapore, and helping them to coordinate their requirements with different government agencies. Overall, the

EDB helps to create an environment in which industries can operate flexibly and with minimum red-tape.

The Government also set up business systems to provide corporate, legal and financial support, and put in place basic education, with emphasis on technical skills and on-the-job training. At the same time, a host of investment incentives was introduced to aggressively promote Singapore as a production base for global exports<sup>3</sup>.

Singapore's push towards export-oriented industrialisation coincided with a favourable international environment. Until the oil crisis in late 1973, the US and Europe were in a sustained period of high growth and kept their markets open to their Cold War allies. There were few trade barriers and tariffs were progressively lowered after several multilateral rounds of trade liberalisation under the General Agreement on Tariffs and Trade (GATT). Acceding to GATT in 1973 allowed Singapore to leverage on the market access opportunities that were provided for exports.

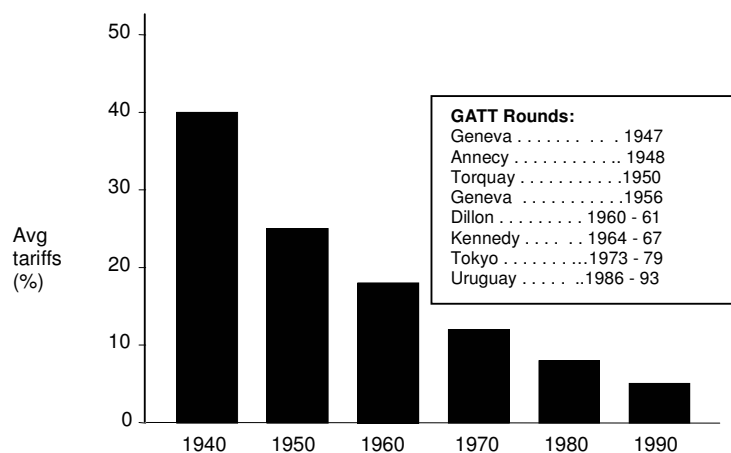


Figure 1. GATT Tariffs

The successive inflows of foreign capital allowed Singapore to quickly build up its manufacturing base. By the early 70s, Jurong was

<sup>3</sup> The Economic Expansion Incentives Act of 1967 sharply reduced corporate tax rates from 40% to 4% for approved manufacturers' export profits for up to 15 years.

humming with activity, and the economy was growing rapidly, even after the British forces left. When the oil shock struck in 1973, there was some slowing of growth and belt-tightening. But on the whole, the economy was in relatively good shape as it moved into its next stage of economic development.

### **1975 – 85: Industrial Restructuring**

By the mid-70s, Singapore had established a substantial manufacturing base and capacity, both in terms of infrastructure and skilled labour. In fact, EDB was so successful in attracting labour-intensive investments that Singapore was literally running out of workers. Competitive pressures were also rising as low cost countries in the region adopted similar policies to attract foreign investments. By then, the Government had reviewed the industrialisation programme and decided that restructuring was necessary, to shift the emphasis from labour-intensive to skill-intensive industries, which would pay Singaporeans higher wages.

The restructuring towards more capital- and skills-intensive industries meant that EDB had to become more selective in who it attracted to Singapore. Firms which were likely to be low-skilled or uncompetitive in the global economy were passed over or allowed to leave the country. EDB also partnered top European and Japanese MNCs like Philips and Seiko to create training centres in Singapore, training school leavers into skilled machinists and CAD/CAM programmers. The Government introduced new fiscal incentives to encourage automation, mechanisation, efficient labour utilisation and productivity. The foreign worker levy was also introduced to slow down the influx of cheap and unskilled foreign labour.

New high-technology and capital-driven industries were identified and promoted. Investments in capital-intensive industries such as component and precision engineering soon displaced investment in labour-intensive industries like textiles and semi-conductor assembly.

One new industry was petrochemicals. The opportunity arose when Sumitomo Chemicals explored the possibility of diversifying the production of petrochemicals outside Japan. Many were then sceptical that Singapore could establish a viable petrochemical industry, as it did not produce any oil or gas. But Singapore had several factors going for it. First, the petroleum refineries in Singapore – Shell, Exxon and Mobil – produced naphtha in abundance, which could be cracked into ethylene, the feedstock stock for downstream petrochemical products. Second, Singapore offered a stable and predictable environment, which was a crucial requirement in the capital-intensive chemicals industry with a long pay-back period. In fact, the Middle East, with its abundant supply of oil and gas – a cheaper feedstock – would have been a more economical location. But when the Iran-Iraq war broke out, and the Middle East political situation deteriorated, the balance tilted in Singapore's favour. When Sumitomo Chemicals agreed to a joint venture with Singapore to form the Petrochemical Corporation of Singapore (PCS), the seed for the development of the petrochemicals industry was planted. This would eventually form a key anchor for the broader chemicals cluster.

In 1979, amid a growing economy and a tight labour market, the Government embarked on a 3-year wage correction policy to incentivise employers to mechanise operations and optimise labour usage. The wage adjustment policy was aimed at upgrading Singapore's industrial structure, and succeeded in encouraging companies to restructure. However, the policy overshot and raised wages too rapidly. Labour costs rose by as much as 13% per annum between 1979-84, more than double the productivity growth of 5% per annum during this period. The adjustments also coincided with an external environment that was weakening sharply, with a slowdown in the US economy following the second oil-crisis in the early 1980s. Together with wage rigidities, this contributed to a loss of cost competitiveness and resulted in Singapore's first post-independence recession in 1985.

## **1985 – 1997: Capability Building and Economic Diversification**

The Government had to make drastic adjustments to restore competitiveness and bring the economy back on track. In the lead up to the downturn, there were already calls for the CPF contribution rate (then at 50% of wages, shared equally between employers and employees) to be cut, as it was deemed to be a heavy imposition on employers. The Government rebutted strongly these suggestions, arguing that a cut in CPF would make workers worse off, and that the solution was to raise productivity to become more competitive.

But when the economy entered a steep recession, the Government concluded that CPF rates were indeed too high, and sharply reduced the employers' contributions to CPF by 15% points, from 25% to 10%. Workers and unions agreed to accept the CPF cuts and to practice wages restraints during the recession years. To prevent wages from getting out of line, reforms were made to wage structures, to move away from fixed payment systems, shrink timescales, and introduce variable payment systems linked to performance, wherever possible. Corporate and personal income tax rates were also cut substantially. These measures helped Singapore to regain its competitiveness and contributed to a swift rebound of the economy.

The 1985 recession exposed structural strains in the economy, which had hitherto been masked by strong economic growth. The sharp pace of 'catch-up' growth in the 70s and 80s meant that resource constraints and diminishing returns to investments were beginning to set in. As a result, the cost-productivity advantage Singapore enjoyed was beginning to narrow, straining competitiveness and dampening demand for its exports.

On the other hand, Singapore's indigenous technological capabilities were still relatively shallow, compared with many of the developed economies and some of the Newly Industrialised Economies (NIEs). For example, in 1990 Singapore had 28 research scientists and engineers (RSEs) per 10,000 workers, compared with 88 for Japan, 77

for US, 44 for Switzerland, 55 for Taiwan and 38 for South Korea. Government spending on R&D as a percentage of GDP was also below that of many developed countries, as well as Taiwan and South Korea.

The strategic focus during this phase of economic development was therefore to strengthen capabilities. The Government committed additional resources for research and development, through the provision of assistance grants, tax incentives and augmenting of the research infrastructure. Taking advantage of the regional boom in the early 1990s, the Government moved to develop an "external wing" for the economy. Labour-intensive industries were allowed to "hollow-out" to lower-cost countries in the region, freeing up resources for higher value-added activities. This also allowed Singapore to tap on the markets and resources of the regional economies, and diversify its dependence on the developed nations

The industrial strategy also started taking on a cluster development dimension. Recognising that industries did not operate in isolation, the Government identified and entrenched mutually supporting industries in both manufacturing (e.g. electronics, petrochemicals, precision engineering) and services (e.g. financial services, international trading, IT).

One key development was the chemicals cluster (including the petroleum, petrochemical and special chemical industries), with Jurong Island as its new home. To develop this cluster, land was an important resource. The islands in the south-western part of Singapore, where existing refineries were located, were a natural prospect. The Government amalgamated and reclaimed the seven disparate islands to build a chemicals complex. The key to Jurong Island's success was not just infrastructure *per se*, but industry integration. Companies came together in one location, supported by a fully integrated logistics hub. They could buy and sell their products and services from one plant to another "across the fence", and create synergies for each other. In this way, the companies were

able to reduce operating costs, enjoy economies of scale, and focus on their core expertise. EDB did such a good job selling the island that even before the land was fully reclaimed from the sea, investment commitments had been secured. On hindsight, the Government recognised that it had been overly cautious, and ought to have moved faster<sup>4</sup>. But overall, Jurong Island has been a major success, and has helped to enhance Singapore's competitiveness as a global chemicals hub.

### **1998 onwards: Towards a Knowledge-Based Economy**

The 1997 Asian financial crisis was a watershed event for Asia. After the Thai baht devalued in July 1997, currency contagion spread rapidly to Indonesia, Malaysia and South Korea. As the financial crisis swept through East Asia, it widened into an economic and social crisis. Although Singapore was spared the worst ravages of the crisis, it was nonetheless affected by the regional slowdown.

After the crisis, the Government set out longer-term strategies for economic development. One major thrust is to expand Singapore's economic space, by linking up with both the major economies and emerging markets. While Singapore strongly supports the multilateral trading framework of the World Trade Organisation (WTO), it has secured bilateral free trade agreements (FTAs) with several countries including US, Australia, Japan, New Zealand, South Korea, India and ASEAN. These FTA initiatives have helped to establish Singapore as a key node linking Asia to the rest of the world, and a major hub for HQ services, R&D, product development, logistical, financial and service support.

Another key thrust is to further diversify and upgrade the economy. R&D is one critical aspect of this effort. The Government is ramping

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<sup>4</sup> One mistake was the delay in constructing a road link connecting Jurong Island to mainland Singapore. The advantages of such a connection were obvious. But earlier projections showed that that the traffic would be too light to justify the investment for some years. Hence the government settled for a ferry service instead and postponed the road link to a later phase of the project.

up investments in R&D, especially in selected areas like biomedical sciences, environmental and water technologies, and interactive and digital media.

Singapore has an edge for R&D in Asia, because of its high standards of intellectual property protection. Its compact size is also an advantage, because it is able to create a truly integrated environment to harness the synergies of interdisciplinary research. In biomedical science, for example, the Government has developed the Biopolis, a purpose-built research centre outfitted with top-end facilities. It houses over 2,000 researchers from public research institutes as well as corporate research laboratories. The Biopolis is part of a broader effort to create a conducive environment for R&D in Singapore. Top scientists in biomedical sciences and other fields of science and technology are being drawn in to support this effort. On top of that, the Government is attracting world-class corporate R&D labs and grooming local R&D firms.

The Government recognises that there are risks in R&D investments, but sees this as a necessary move to build long-term competitive advantage. As Tharman Shanmugaratnam, 2<sup>nd</sup> Minister for Finance, put it in the 2007 Budget Statement, “We do not expect short-term returns. This is a long-term investment, and clearly there are risks. We cannot be sure of success, and even if we succeed, many of the economic benefits are likely to be indirect. But the Government had considered this carefully, and decided that this was an investment we had to make for Singapore’s future. Over time, we will build up a critical mass of top-rate researchers in Singapore, who will create new intellectual property in our research institutes, universities and hospitals, and will bring in new, technology-driven activities which will spin off benefits to the rest of the economy.”

Besides R&D, greater emphasis is being put on growing the services sector. One key growth area is the financial sector. This has long been a traditional pillar of the economy. In 1997, the Monetary Authority of Singapore (MAS) undertook a strategic review of its

approach to financial sector development, and fundamentally changed its regulatory approach, from one-size-fits-all prescriptive regulation towards a more risk-focused supervisory approach. This lighter touch in supervision enabled the banks to be more innovative in introducing new financial products. At the same time, the MAS took steps to promote the asset management industry, and liberalise access to the domestic banking sector. In the years following the reforms, the financial services sector has seen rapid growth. A critical mass of asset managers and advisors is now located in Singapore, with total assets under management fast approaching \$1 trillion. New niches are also being developed, with Singapore increasingly serving as a bridge between the Middle East and Asia.

New service industries like education and healthcare are also being developed. In education, Singapore has brought in 16 leading international universities including INSEAD, Duke, MIT, and the University of Chicago Graduate School of Business. In healthcare, foreign patient numbers are growing rapidly. They seek treatment both at private and public sector institutions, attracted by Singapore's high medical standards, and reputation for quality and reliability.

The Government has also taken steps to remake the city into a more attractive and vibrant place to live, work and play. In 2005, it decided to build two integrated resorts (IRs) – high-quality leisure, business and entertainment zones, each with a casino. This is another fundamental policy shift, reversing a long-standing ban on casinos in Singapore. The two IR operators will invest over \$10 billion in Singapore, creating many jobs and spin-offs for the economy. One of the IRs will be on Marina Bay, the focal point of the Government's efforts to create a new downtown. Other new projects around the Bay are also in the pipeline, including the development of a new Business and Financial Centre (BFC) with first-class infrastructure for financial institutions, and the hosting of a Formula One Grand Prix race.

The strategies in this phase of economic development aim to make Singapore a leading global city, open and cosmopolitan, and a hub of talent, enterprise and innovation. Domestically, the economy is already at an advanced level with per capita GDP at advanced country levels. Singapore therefore cannot expect the same dramatic transformation as it has achieved over the last two decades, or the same rates of growth in output and living standards. At the same time, Singapore cannot stand still, as global competition has intensified, with other emerging countries also striving to attract investments and vying to become business hubs. To stay one step ahead of the competition, Singapore has to offer investors that extra plus in terms of superior capabilities and an efficient, flexible business environment.

### NURTURING ENTERPRISE

For an economy in a low-level equilibrium, there is a need to generate new investments and entrepreneurship, in order to kick-start growth. In Singapore's case, the Government played a crucial role, not just by creating the right business environment and supporting infrastructure for productive dynamism, but also getting involved in direct ownership and control of enterprises.

In the initial years of development, there was a severe lack of private management expertise, entrepreneurship and capital in many sectors of the economy, such as ship-building, air transport, shipping and development banking. The Government therefore played a crucial role by injecting some equity to instil confidence and to encourage the private sector to venture into industry. By the early 70s, the Government had equity participation in over fifty companies and a payroll of more than 25,000 in these companies. This compares with a similar number of people in the manufacturing establishments in 1959. In other words, the companies initiated by government effort (i.e. government linked companies or GLCs) were as large as the entire sum of industries when Singapore attained self-government!

Over the years, many GLCs have grown into successful commercial entities operating in competitive markets both locally and abroad. Among them include leading Singapore companies like Singapore Airlines, Singapore Telecommunications (Singtel), the Development Bank of Singapore (DBS), and Keppel Corporation. For example, DBS was formed in 1968 as few banks in Singapore were prepared to lend beyond a 3-year term or finance the fledgling manufacturing companies. Shortly after its formation, DBS was floated on the stock exchange, primarily to foster private sector participation and subject the bank to the rigour and discipline of the market in the conduct of its business. DBS was the first GLC to be listed and had a market capitalisation of around \$100 million then. It is now one of the largest banking groups in the region, and among the top 100 banks in the world, with a market capitalisation of more than \$25 billion.

State-owned enterprises are common in many developing countries, but few have been able to display the same profitability and commercial dynamism as those in Singapore. How are GLCs in Singapore different, and what is it that has enabled them to succeed? There are several key factors. First, beyond the initial injection of state equity, the GLCs do not receive any further financial subsidies from the government. They run strictly on a commercial basis, under the same rules and regulations as any other company in the private sector. There is no such thing as preferential treatment or an easy ride for the GLCs.

One example serves to illustrate the clear and firm line that the Government took. When Dr Goh was Defence Minister, he established the Chartered Industries of Singapore (CIS) to grow a defence industry to support the Singapore Armed Forces (SAF), and to help kick-start Singapore's industrialisation programme. However, Dr Goh made clear that there was to be no subsidy or transfer pricing. The bullets CIS manufactured were sold to the SAF at market prices. Dr Goh himself would ask for the international quotations to check. CIS quickly learnt that to survive, it had no choice but to strive for

excellence. When makers of the M16 rifle came to test CIS ammunition, they were surprised by the quality of the rounds. They called them “match rounds”, because their production standards were of equivalent quality to those specially made for competition matches. Today, CIS has become ST Engineering, a leading supplier of aerospace, electronics, land and marine systems, not just for the SAF, but also for defence and security forces around the world.

Second, the policy of exposing the GLCs to market competition has sharpened their incentive to perform, and made them stronger and better. Singapore Airlines (SIA), for example, was just a fledging airline with a small fleet of 14 aircraft when it started out. To survive, it had to expand and compete internationally. Step by step, SIA built up its global branding and reputation as a preferred airline for travellers around the world. Like SIA, many GLCs have ventured and done well overseas. They also raise capital from the equity and bond markets, and thus subject themselves to market discipline and scrutiny by investors, analysts and rating agencies. Temasek Holding, which was formed in 1974 to hold and manage these companies, itself publishes an annual review of its performance, maintains AAA/Aaa ratings from credit agencies like Standard & Poor’s and Moody’s, and has issued an international bond.

The Government’s role, as an active shareholder, is to ensure sound corporate governance, and competent board and professional senior management. In this regard, the Government has spared no effort in finding the best people to helm the companies. In the early years, many were top civil servants like Mr JY Pillay and the late Mr Howe Yoon Chong and Mr Sim Kee Boon, handpicked for their keen sense of business, and seconded to the corporate world. They proved not just to be capable administrators but also outstanding businessmen. In later years, a deliberate effort had been made to cast a wider net to bring in world-class managerial talent. Today, GLCs like DBS and Neptune Oriental Lines (NOL) are led by foreign CEOs.

With growing private expertise and initiative, the Government’s direct involvement in the economy has diminished over the years. It

has instituted a “Yellow Pages” rule, whereby government agencies are not allowed to set up enterprises if private sector players performing similar activities can be found in the yellow pages. The Government has also progressively reduced its shareholdings in the GLCs. The latest statistics show that the companies under Temasek account for around 10% of the total value-added in the economy.

Where there are no compelling reasons to hold on to its stakes in these companies, the Government’s general approach is to divest at the right price and in favourable market conditions. But at the same time, it does not seek to sell off just for the sake of divestment or on ideological grounds. In particular, there are several strategic considerations which would make retention of government ownership or control necessary in a limited number of cases. One prime consideration is to safeguard vital security and national interests. This includes companies which undertake sensitive defence contracts, operate as natural monopolies that cannot be effectively regulated or have an impact on critical public policy objectives. The divestment of the individual companies under Temasek comes under the oversight of its Board of Directors, guided by the principles set out in a Charter between the Ministry of Finance and Temasek.

More generally, the Government’s primary role is to create conditions conducive to private enterprise and initiative. It does this through several ways. First, the Government adopts an institutionalised and coordinated programme to review and cut public sector red-tape. Government agencies embark on regular review of their rules, in consultation with the private sector, to reduce the regulatory burden and keep the costs of business down. Second, to inculcate an entrepreneurial culture, especially among the young, changes have been made in the education system to nurture creativity, innovation and a spirit of learning and experimentation. Third, government agencies regulate and promote industries in an impartial way, and ensure a level playing field for all market players. Ultimately, the Government cannot manufacture entrepreneurs, but it does its part to

create the environment and conditions that allow, encourage and facilitate entrepreneurship.

## BUILDING CONSENSUS AND TRUST

Singapore's economic development was not always smooth sailing. Difficult adjustments and changes had to be made over the years. In the economic recession in 1985-6, and more recently in the downturn in 2001-2003, workers accepted cuts in their CPF and wages. The process of corporate restructuring and wage reform over the years has also been difficult and painful, with workers experiencing greater uncertainties and the prospects of job disruption and losses.

Collectively, workers form one of the most important organised groupings in society, and the successful implementation of policies depend on the active cooperation of organised labour. Outsiders who do not understand Singapore sometimes think that it is able to implement hard-headed policies because of an authoritarian government – it issues orders and docile workers will simply obey. Singapore's unique political context may well accord the PAP government greater policy latitude than it would have in a fractious multi-party political system. But ultimately, the Government's ability to introduce tough policies stems from the mutual trust that has been built between workers and the Government, and the consensus forged on the major directions for the nation.

This consensus is shaped in part by the sense of vulnerability arising from Singapore's circumstances. There is a broad recognition that Singapore cannot just coast along with the status quo to survive, but must stay nimble and flexible, and continue to adjust and change to keep pace in a fast moving world. At the same time, the Government has earned the people's trust by delivering results and keeping its promises. When the Government started out in 1959, Singaporeans accepted the objectives of its policies, and were willing to give the experiment a try. As the economy expanded over the subsequent

decades, new opportunities arose for people in all social groups, raising their standards of living and providing them with a better livelihood.

In fact, up to the early 60s, Singapore endured endless strikes and riots. Labour unions took an adversarial approach and carried out a relentless class war against employers. But the deep sense of crisis following the separation made it possible for the Government to turn around union leaders. Under the leadership of the National Trades Union Congress (NTUC), the labour movement took an enlightened long-term view of their group interests, and reined in the labour militants. NTUC leaders understood the challenges that threatened Singapore as an independent nation, and were willing to give pro-growth policies a chance to succeed. After independence in 1965, the Government undertook a series of measures to stabilise labour-management relations. This is discussed in Chapter 11 on Manpower Policy.

Various pieces of labour legislation were consolidated in the Employment Act and the Industrial Relations (Amendment) Act of 1968. Later, the Trade Unions Act was amended. These laws restored to management the right to hire and fire, to promote and transfer – functions that unions had encroached upon in the years of industrial strife. In 1969, a team from the World Bank came to assess Singapore's economic position, and reported that the country had "entered a new phase of accelerated growth with boom conditions in private investment." They attributed this "greater than expected success in Singapore's drive towards industrialisation" to several factors, one of which was the implementation of the Employment Act.

But legislation alone was not sufficient to achieve industrial peace. Of critical importance was the close links between leadership of the PAP and National Trades Union Congress (NTUC) and the mutual trust which they shared. More than half the protem committee members of the PAP were unionists, and former Prime Minister Lee Kuan Yew had started his political life fighting for the unions as their legal

adviser and negotiations. As Lee Kuan Yew put it, “Strict laws and tough talk alone could not have achieved this. It was our overall policy that convinced our workers and union leaders to support our key objective....But ultimately it was the trust and confidence they had in me, gained over long years of association, that helped transform industrial relations from militancy and confrontation into cooperation and partnership.”

### **Box 2: Perspiration or inspiration?**

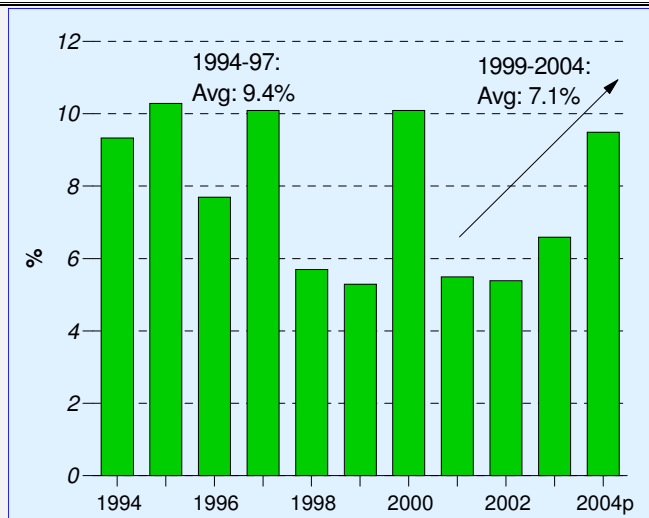
In a controversial 1994 article on the *Myth of Asia's Miracle*, economist Paul Krugman singled out Singapore as an economic miracle which “turns out to have been based on perspiration rather than inspiration” because of its negligible rate of total factor productivity (TFP) growth. Krugman argued that Singapore grew through massive mobilisation of resources, which was not sustainable in the long term.

In fact, Singapore’s input-driven growth from the 1970s to the mid-1980s accords with the experience of countries like the US and Japan that also recorded low TFP growth in their early stages of development. In Singapore’s case, the high investments made during this period coincided with the ramp-up phase of its economic development, where the emphasis was on industrial and infrastructural capacity building, to put in place the foundations to support long term growth.

But Singapore’s earlier phase of rapid capital deepening associated with low TFP growth is giving way to more sustainable growth in capital intensity and TFP. Updated data suggest that while Singapore’s TFP growth was low in the 70s and 80s, it has improved significantly since then. Singapore’s TFP has increased from a marginal rate of 0.8% per annum in 1975-1989 to 1.3% in 1990-1999 and 2.0% in 2000-2006.

Aside from TFP, other measures suggest that Singapore is becoming more efficient in the use of capital. Reflecting the shift towards value-added industries, foreign companies in Singapore have enjoyed higher returns in recent years. For example, the chart below shows that returns on assets of US MNCs in Singapore have been trending up since 2002.

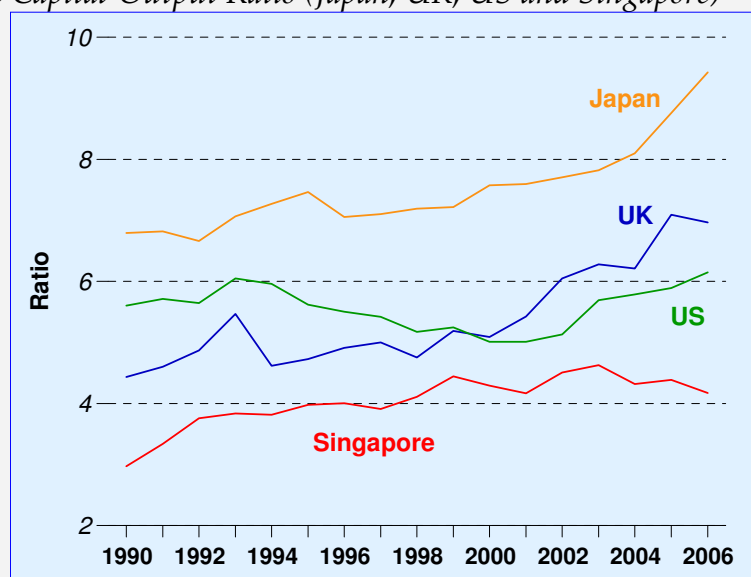
*Returns on Assets of US Majority-Owned Non-Bank Affiliates in Singapore*



Source: MAS estimates

Another measure of investment efficiency is the Incremental Capital Output Ratio or (ICOR), which measures how many additional units of capital are required to produce each additional unit of GDP. The lower the ICOR, the higher the investment efficiency. Estimates of ICOR suggest that the efficiency of investment in Singapore is comparable with, or higher than, advanced countries such as Japan, US and the UK. Over the past five years, Singapore's ICOR has fallen slightly suggesting an improvement in the efficiency of generating each unit increase in output

#### *Incremental Capital-Output Ratio (Japan, UK, US and Singapore)*



Source: MAS estimates

Contrary to Krugman's ominous predictions, Singapore is starting to reap the returns from its earlier high investments. This bodes well for Singapore's ability to sustain healthy economic growth in the future

This symbiotic link between the PAP and NTUC has endured and benefited workers for several reasons. First, workers in Singapore are represented at the highest level of government. Around the world, labour movements seek to advance the interest of workers and gain political power to achieve their goals. In Singapore, the founder of the NTUC, Mr Devan Nair, was also one of the convenors of the PAP in 1954. He later served as the NTUC's Secretary-General, and was instrumental in turning the labour movement around, abandoning the antagonistic mindset to a strong cooperative relationship with the government. He also helped to modernise and transform the union movement into a well-run, forward-looking outfit. Since then, successive Secretary-Generals of the NTUC have concurrently held ministerial appointments in government. Both the immediate past and current Secretary-Generals are serving Cabinet Minister. They champion the cause of workers in Cabinet, and on major policy issues, will give their views from the workers' perspectives.

Second, besides enjoying high-level representation in government, the unions also play a broader role in the process of policy making. Every time the Government introduces a major policy, an enormous amount of quiet groundwork is already done beforehand consulting union leaders and getting their inputs. They help to improve the design of the policy, both in terms of its substance and presentation. As a result, when the policy is announced, both the Government and union leaders find it much easier to explain the changes on the ground.

Third, workers are willing to support tough policies because they have seen how these policies have delivered positive results. Cutting CPF and wages were painful moves, but they eventually helped to restore growth and create more jobs. Unions and workers therefore

understood their rationale and were supportive of them. This has created a virtuous cycle of right policies, good results and support for more right policies.

What started off as a symbiotic relationship between the NTUC and the PAP government eventually evolved into a tripartite partnership involving employers. The key embodiment of tripartism at work is the National Wages Council. Established in 1972 with representatives from unions, management and the Government, the NWC reaches a consensus recommendation every year on wage increases and other terms and conditions of service, which would be affordable and would promote further economic growth.

Over the years of working together in tackling successive challenges, mutual trust between the Government, employers and workers/unions has been consolidated and strengthened. This was evident when the Board of Directors of Shell held their meeting in Singapore in 2006. The CEO of Shell asked the Prime Minister how Singapore was able to implement rational, hard-headed policies for the overall good of the economy, and get union support for them, instead of going down the road of welfare like other countries. Prime Minister Lee replied that this was possible only because workers had seen the results of the Government's policies, and know that they are necessary to keep the economy growing and create more jobs. So long as the policies work and new jobs are being created, Singapore will stay on track. The CEO then said that he had asked the union leaders he had met earlier the same question, and been given exactly the same answer!

The strong tripartite partnership is a uniquely Singaporean institution that has taken many years to evolve and grow. It is one of Singapore's key competitive advantages, and has been instrumental in creating a favourable investment climate, and attracting companies to invest and do business here.

## BUILDING INSTITUTIONS

An integral part of Singapore's development story is a deliberate strategy of building high-quality institutions that facilitate the effective functioning of the market, and the implementation of pro-growth policies.

To begin with, Singapore was fortunate to have inherited from the British a system of administration founded on the virtues of free trade. Successive colonial governors zealously nurtured the port, maintained lean and efficient administrations and allowed merchants, bankers and traders to thrive. Taxes were reduced to a minimum and no harbour dues were levied as these were thought to have a bad effect on shipping. Infrastructure was maintained at minimum cost with maximum efficiency. Under such conditions, Singapore developed as the entrepot centre of Southeast Asia, as well as a supplier of capital, enterprise and management. As Dr Goh noted several years later, "it might have been politically tempting to rid ourselves of institutions and practices that bore, or seemed to bear, the taint of colonial associations. Had we done so, we would have thrown away a priceless advantage for the sake of empty rhetoric."

The Government built on this foundation, and created and nurtured new institutions to meet changing economic and social needs. Economist and Nobel laureate Douglass North who inspired the field of institutional economics has argued that economic growth depends not only on the presence of durable institutions, but also a society's "adaptive efficiency" to create, change, evolve and replace its institutions, in response to political and economic feedback. This continuous process of institutional adaptation, experimentation and reform has been a defining characteristic of Singapore's development experience.

What are the institutional ingredients of a self-sustaining market economy? Economist Dani Rodrik suggest that they can be classified into four broad categories: (i) those that help the market to exist, including some form of property rights, rule of law, and contract

enforcement; (ii) those that regulate the functions of the market, for example by minimising the abuse of market power, dealing with market externalities, and establishing product safety standards; (iii) those that help to stabilise the market, specifically the monetary and fiscal arrangements that deal with business cycle and volatility; and (iv) those that help to legitimise the market through the provision of adequate social safety nets, thereby ensuring that market outcomes are consistent with broader developmental objectives and norms.

The rest of this section will show how Singapore has evolved a comprehensive set of market-sustaining institutions in each of these categories.

### ***Market-Supporting Institutions***

Singapore inherited its legal system from the British colonial government. Over the years, wide ranging reforms were carried out to build up the legal infrastructure, develop local jurisprudence relevant to Singapore's context, clear the growing backlog of cases, streamline the rules of court, and improve efficiency through extensive use of IT. Today, Singapore's legal and judiciary system is consistently ranked among the top in Asia and the world. A World Bank report cited Singapore's judiciary as a model for reform, noting that "the lessons learned from Singapore's success can help guide judicial reform initiatives regionally as well as globally. No one would suggest that Singapore's strategy is a magic formula...but it would be wise to examine the strategies used and lessons learned from Singapore's experience as a potential guide toward successful and sustainable judicial reform."

Impartial application of the rule of law has helped Singapore's economic development in many ways. Companies and other institutions choose to create and host their intellectual property in Singapore, secure in the knowledge that their property rights are secure. Entrepreneurs find it relatively easy to set up operations and do business here, knowing that rules would be upheld, and

businesses contracts enforced. All this has also created a safe, secure and attractive environment for people to live and work in Singapore.

### ***Market-Regulating Institutions***

Regulatory institutions in Singapore have similarly grown and evolved over the years. In the past, many regulatory functions were undertaken by agencies that were at the same time the service producer. However, the two functions have increasingly become separated, as the Government embarked on a series of reforms to corporatise and privatise functions previously performed in-house, and open these areas to market competition. This has allowed government agencies to focus on their regulatory functions, ensuring that regulations are prescribed in a consistent manner, and are updated to take into account changes in industry structure and technology.

Regulation of the electricity industry is a case in point and is detailed in Chapter 16 on Public Utilities. The Public Utilities Board (PUB) was created in 1963 to take over the functions of utility supplies – power, water and gas – from the former City Council. The supply of electric power was vital to industry and the PUB had to plan many years ahead so that industrial growth would not be curbed by supply shortfalls. In 1995, the Government corporatised the electricity and piped gas undertakings of the PUB as a first step towards introducing competition in the industry. Subsequently the non-contestable part of the industry, i.e. transmission and distribution through the power grid, was separated out from the contestable part, i.e. power generation and retailing, which was liberalised and opened up to competition in phases. PUB was initially reconstituted to take on the new role of regulating the electricity industry, but with the growing complexities of the market, the Energy Market Authority (EMA) was established in 2001 to take over PUB's role of regulating the industry. In discharging its regulatory duties, the EMA ensures that market rules are consistent and subject to a high degree of transparency. It has set up an independent Rules Change Panel to approve changes to

market rules, and to provide assurance to industry players that rules would not be changed arbitrarily and without good reason.

In 2005, a Competition Act was introduced and the Competition Commission of Singapore (CCS) was established to administer and enforce competition law. Following the EU/UK model, the CCS is *de facto* the investigator, adjudicator and enforcer all rolled into one, i.e. in addition to investigating an alleged infringement, the CCS has the power to decide whether the conduct is anti-competitive, and enforce against it.

### **Market-Stabilising Institutions**

Prior to 1970 in Singapore, the various monetary functions associated with a central bank were performed by several government departments and agencies. As Singapore progressed, the demands of an increasingly complex banking and monetary environment necessitated streamlining the functions to facilitate the development of a more dynamic and coherent policy on monetary matters. Therefore in 1970, the Monetary Authority of Singapore (MAS) was established with the authority to regulate all elements of monetary, banking and financial aspects of Singapore.

Monetary policy in Singapore is centred on the exchange rate, which is focused on maintaining a stable Singapore dollar and ensuring low inflation for sustained growth. The Government has refrained from pursuing competitive devaluation of the domestic currency to boost export competitiveness, choosing instead to address cost competitiveness issues directly. As a result, Singapore has one of the lowest inflation rates in the world. The stability of the Singapore dollar promotes investment and exports by providing a conducive environment for long-term planning and investment decisions, and minimising earnings losses arising from exchange rate volatility. As supervisor and regulator of Singapore's financial services sector, MAS has prudential oversight over the banking, securities, futures and insurance industries. The high prudential standards set by the MAS have helped to maintain the soundness of financial institutions in

Singapore, and partly explains why Singapore endured the financial crisis with minimal damage to its financial sector.

On the fiscal front, the Government has adopted a disciplined and prudent approach, eschewing government borrowing and deficit spending that have led to inflation and a heavy burden of national debt in many countries. When the Government started out in 1959, it faced a potential financial crunch, and expected a budget deficit that year. Drastic belt-tightening measures were introduced to reduce spending. By the end of the year, the Government had achieved a small surplus of \$1 million. Over the years, the Government has put in place legal rules and safeguards to ensure fiscal and budgetary prudence. In effect, these rules require the Government to maintain a balanced or modest budget surplus over the medium term.

Fiscal policy in Singapore is supported by an efficient, incorrupt and competent tax administration. In the 1970s the Revenue Department faced an acute staff shortage – specialised tax officers were highly sought after in the private sector – and could not cope with the rapid increase in the number of tax payers. There was a large backlog of tax not assessed and tax not collected. To rectify the situation in 1992, the Revenue Department was converted into a statutory board, the Inland Revenue Authority of Singapore (IRAS). The conversion marked more than a change in name or organisation. It provided IRAS the autonomy and flexibility to manage its personnel and financial resources. Major technical upgrading and automation took place. Today, IRAS stands out among tax administrators around the world for its use of technology to make filing and payment easier. Almost two-thirds of personal income tax returns in Singapore are filed online.

### ***Market-Legitimising Institutions***

The unbridled reign of market forces can lead to inequalities of both opportunities and outcome. In recent years, globalisation and rapid technological change have led to a stretching out of incomes in

countries around the world. Market-legitimising institutions are therefore needed to help the more vulnerable segments of society, and ensure that prosperity is more fully shared, without threatening its fundamental basis.

Singapore too has been grappling with challenge of a widening income gap. From 1990 to 1997, household income increased almost evenly across the board. After 1997, however, the top incomes continued growing at 4% per annum, whereas incomes for the bottom 20% grew a lot more slowly, at only 0.3% per annum.

In response, the Government has put in place measures to strengthen its social safety nets, and to tilt the balance in favour of the lower-income groups who do not benefit proportionately from growth. Singapore's social security system is based on three key pillars. First, the Central Provident Fund (CPF) – a compulsory save-as-you-earn individual savings account – helps Singaporeans save for their retirement. Second, the “3Ms” – Medisave (a medical savings account linked to the CPF), MediShield (a medical insurance scheme) and Medifund (a medical safety net for the poor) – help Singaporeans afford good quality healthcare. Third, affordable and high-quality public flats built by the Housing Development Board (HDB) provide a roof over the heads of the vast majority of Singaporeans, and give every household a stake in Singapore.

Besides adapting, reinforcing, and updating these three pillars of social support over time, the Government has introduced direct and targeted measures to more greatly benefit the lower-income groups. One major new initiative is Workfare – a wage supplement scheme for low-wage workers – on the principle that the best way to help people is to help them find work and stay in work. Workfare has now been institutionalised as the fourth pillar of the social security system, together with the CPF, the 3Ms and home ownership.

## CONCLUSION

Internationally, Singapore enjoys a high standing. It has a proven system that works. Countries admire what Singapore has achieved and are keen to learn the secrets of its success. As one visiting African leader put it, his country had done everything that the IMF and World Bank had advised, but these recommendations have not delivered results; on the other hand, Singapore has pursued its own path, and it has managed to make a first-world country out of a third-world within one generation.

However, Singapore's experience probably has limited application to the general run of developing countries. Context is important and Singapore is unique in the way it has evolved. Singaporeans understand what the Government is trying to do and has given it a strong mandate. For its part, the Government is strongly committed to promoting the long-term interests of Singapore. This establishes a political context which gives civil servants and administrators the space to work out rational, effective solutions to problems. As Prime Minister Lee explained, "Many countries envy Singapore's ability to take a longer view, pursue rational policies, put in place the fundamentals which the country needs and systematically change policies which are outdated or obsolete....it is hard to imagine civil servants operating this way in nearly any other country. But in Singapore, administrative officers can practise public administration almost in laboratory conditions." In this regard, Singapore is too unique to serve as a comprehensive model that might be replicated elsewhere.

On the other hand, Singapore, as a policy laboratory, offers some of the best opportunities to learn about specific policies – what works, what doesn't and why. More than other countries, Singapore has been highly rational and rigorous about policy formulation, looking over the horizon, testing, adapting and modifying every scheme to achieve optimal results. A common thread in all of these policies is the systematic effort to design market-compatible incentives and institutions relevant to the country's needs and adapting these

systems along the way as requirements change. Hence, if there is one lesson that can be generalised from Singapore's experience, it is that governments can play an important role in economic development by designing market-based, pro-growth policies adapted to local conditions. These measures may not always fit neatly into conventional forms. Instead of naïve application of standard prescriptions, the key is to creatively design policies and schemes to target the source of market failure, without creating by-product distortions. Singapore has effectively translated this concept into successful solutions for itself. But every country is different and will have to work out the specific forms of incentives and institutions adapted to their own circumstances and means to succeed

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