



The Role of Competition in Singapore's Economic Growth and Public Policies

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ABSTRACT

This paper discusses the role of competition in Singapore's economic growth and public policies. We first look at how competition had enabled Singapore's transition from state entrepreneurship to liberalisation. We then examine the ways through which competition promotes continued economic growth – by ensuring competitive prices, lowering costs, driving innovation, and improving productivity. Next, we look at the complementarity between competition and other public policies, including sectoral regulation, trade policy, and public procurement. We highlight the limits of competition that arise when economic objectives conflict with other policy objectives. Finally, we discuss the new considerations from the competition perspective in light of recent insights from behavioural economics, as well as from the growth of the sharing economy.

KEYWORDS

Competition policy, competition law, economic regulation, economic growth, public policy,

NOTE

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The Role of Competition in Singapore's Economic Growth and Public Policies

1 Introduction

It is no coincidence that Singapore, as one of the most open and competitive economies in the world, has achieved high real GDP growth of 6.7 per cent per annum between 1985 and 2010.¹ This has been achieved through incorporating competition principles in its public policies, to stimulate market-driven innovations and provide a conducive environment for sustainable economic growth.

This paper discusses the role of competition in Singapore's economic growth and public policies. We first look at how competition had enabled Singapore's transition from state entrepreneurship to liberalisation. We then examine the ways through which competition promotes continued economic growth – by ensuring competitive prices, lowering costs, driving innovation, and improving productivity. Next, we look at the complementarity between competition and other public policies, including sectoral regulation, trade policy, and public procurement. We highlight the limits of competition that arise when economic objectives conflict with other policy objectives. Finally, we discuss the new considerations from the competition perspective in light of recent insights from behavioural economics, as well as from the growth of the sharing economy.

2 A History of Competition Policy in Singapore

When Singapore became independent in 1965, it faced dire economic and social circumstances, including massive unemployment and racial tensions. To create job opportunities, the government adopted an activist approach to restructure the economy from one based on import substitution to one based on export-oriented industrialisation. Multi-national companies, which brought with them foreign capital, access to overseas markets, and technology, were welcomed. Government-linked companies (GLCs) were established in sectors of the economy where private enterprise was lacking, which included ship-building, air transport, shipping, and development banking.

In the 1980s, government divestment was pursued in order to withdraw from commercial activities that no longer needed to be undertaken by the public sector, and to avoid competing with the private sector. The government commissioned a committee to review its ownership of businesses and to recommend businesses for divestment. This led to the Michael Fam report of 1987, which identified 41 GLCs to be divested over the next 10 years,

¹ Keynote address "An Economic History of Singapore: 1965-2065" by Mr. Ravi Menon, Managing Director, Monetary Authority of Singapore, at the Singapore Economic Review Conference on 5 August 2015. <http://www.mas.gov.sg/News-and-Publications/Speeches-and-Monetary-Policy-Statements/Speeches/2015/An-Economic-History-of-Singapore.aspx>

another 6 to be further reviewed, and 43 others to retain government ownership. Within 15 years, the government divested about 60 GLCs, particularly those without international growth potential or strategic purpose. As public assets were involved, divestment took place only at the right price and in favourable market conditions.²

Subsequently, the government proceeded with gradual market liberalisation. Liberalisation was aimed to promote competitive markets, so as to drive innovation and deliver better quality products at lower prices. For example, the telecommunications sector started its liberalisation process in 1989 and was liberalised fully in 2000. The Energy and Markets Authority (EMA) progressively opened up the retail electricity market to competition since 2011, and planned to fully open up the market by 2018. Other industries that have been liberalised include banking and finance, transport, and postal sectors. In some of these liberalised sectors where industry-specific oversight was necessary, sectoral competition codes and regulations were put in place.³

In 2004, the Competition Act (“Act”) as the generic competition law was enacted to reinforce Singapore’s pro-enterprise and pro-competition policies, enhance the efficiency of markets and strengthen economic competitiveness. The three key prohibitions, and types of such activities under each prohibition, are:

Prohibition	Types of activities
i) Agreements, decisions and practices which prevent, restrict or distort competition (Section 34)	<ul style="list-style-type: none"> • <u>Price fixing</u> occurs when competitors directly or indirectly agree to fix, control, or maintain the prices of goods or services. • <u>Bid rigging</u> occurs when competitors agree on who should win a tender. • <u>Market sharing</u> involves an agreement by competitors to divide up markets, such as by geographical areas or types of customer, and to sell only to their allotted segments. • <u>Production control</u> occurs when competitors limit the quantity of goods or services in the market, so as to increase prices and maximise profits.

² Singapore’s contribution to OECD Global Forum on Competition, “Fighting Corruption and Promoting Competition”, 13 January 2014.

³ In a later section, we discuss the differences between competition policy and sector-specific regulations.

ii) Abuse of dominant position (Section 47)	<p>Abuse of dominance occurs when a dominant firm engages in practices to protect, enhance, or perpetuate its dominant position, in ways unrelated to competitive merit.</p> <ul style="list-style-type: none"> • <u>Exclusive dealing</u> involves the dominant firm dictating that his upstream supplier sells only to it, or that his downstream retailer buys only from it. • <u>Predatory pricing</u> occurs when a dominant firm sells at prices below cost to force out competitors or deter potential entrants, so as to charge higher prices in future. • Certain types of schemes like <u>loyalty discounts, rebates, and tying sales</u> help to lock in customers and may be used by a dominant firm to restrict competition. • A dominant firm's <u>refusal to supply</u> key products or services essential to another firm may be harmful to competition, if it results in a competitor being unable to operate.
iii) Mergers and acquisitions that substantially lessen competition (Section 54)	<p>A merger or acquisition that leads to a <u>substantial lessening of competition</u>, e.g. resulting in higher prices, lower quality, or lesser product choices for consumers, without offsetting economic efficiencies.</p>

The Competition Commission of Singapore (CCS) was established under the Competition Act on 1 January 2005 to administer and enforce the Act. The Act empowers CCS to investigate alleged anti-competitive activities, determine if such activities infringe the Act and impose suitable remedies, directions, and financial penalties. CCS also has the duty to advise the Government in respect of competition matters.

Over the years, CCS has uncovered activities which are illegal under the Competition Act and has penalised the infringing firms accordingly. These activities span across various sectors, such as:

- transportation (e.g. price-fixing of coach bus services (2009); unlawful sharing of price information between ferry operators (2012); air freight international cartels (2014));
- automotive (e.g. bid rigging by motor traders (2013));
- manufacturing (e.g. international price-fixing between ball-bearing manufacturers (2014));
- construction (e.g. bid rigging in electrical and building works (2010));
- financial (e.g. financial advisers pressuring competitor to withdraw offer from the life insurance market (2016)); and

- other services (e.g. bid rigging of pest control services (2008); abuse of a dominant position by SISTIC (2010); price-fixing by maid employment agencies (2011) and price-fixing by modelling agencies (2013).

3 Why Do We Need Competition?

Competition has been and continues to be a key tenet of Singapore's economic strategy. Maintaining the policy of a free and open economy has supported Singapore's strong economic growth in the last decade, allowing Singapore to be consistently ranked as one of the most competitive economies in the world. For example, the World Economic Forum's Global Competitiveness Report 2014-15 ranked Singapore as the second most competitive economy for the fourth consecutive time. With more privatisation of state-owned entities and an increasingly dynamic economic environment due to globalisation, competition policy and law are even more crucial for Singapore's economic development, as they define the rules of the environment in which businesses interact. To move towards a more innovation-driven economy, competition policy will be crucial to maintain a business environment that rewards innovation. When businesses are protected from the harms of anti-competitive practices, they can focus on innovating and competing to deliver better quality products at competitive prices to consumers, which is the driving force for economic growth.

In the following subsections, we outline the economic concepts that link competition to economic gains, and highlight some anti-trust cases to illustrate how anti-competitive practices harms competition and ultimately society.

3.1 Productive Efficiency

Firms are said to be productively efficient if they are producing their goods or services at the lowest possible cost. Competition helps firm to produce more efficiently, as competitors exert pressure on one another to offer their products at the lowest possible price to attract and retain their customers. As such, firms are incentivised to reduce their costs to the minimum, e.g. by reducing wastage, improving management processes or using better technologies. As part of the competitive process, firms that are less efficient exit the market.

One way to illustrate productive efficiency is to look at mergers and acquisitions. A merger between, or acquisition of, competitors would remove any competition that would have otherwise existed between them. At the same time, a merger and acquisition may also allow the merged entity to produce at a lower cost through, for example, increased bargaining power for inputs, economies of scale in production, strengthened sales and distribution network. Therefore, in reviewing mergers or acquisitions, the potential harm from the loss of competition should be assessed relatively to the efficiency gains that would result.

Mergers and acquisitions – an illustration of Productive Efficiency

Section 54 of the Competition Act prohibits mergers that have resulted, or may be expected to result, in a substantial lessening of competition in Singapore.

The general view is that competition concerns are unlikely to arise in a merger situation unless:

- i. The merged entity has/will have a market share of 40 per cent or more; or
- ii. The merged entity has/will have a market share of between 20 to 40 per cent and the post-merger combined market share of the three largest firms is 70 per cent or more.

Merging entities are not required to notify CCS of their merger but they should conduct a self-assessment to ascertain if a notification to CCS is necessary.

CCS has reviewed numerous mergers and acquisitions over the past years, including those which were not notified but may pose competition concerns. We provide examples of two acquisitions below. One of them was cleared because it does not pose competition concern, whereas the other, which CCS raised concerns on, ultimately did not proceed.

Acquisition of Orthe Pte. Ltd. by Asia Renal Care (SEA) Pte. Ltd.

On 26 December 2012, CCS issued a decision to clear the proposed acquisition by Asia Renal Care (SEA) Pte. Ltd. (“ARC”) of Orthe Pte. Ltd. (“Orthe”). The proposed acquisition was notified to CCS on 16 November 2012. ARC and Orthe were assessed to have a high combined market share of between 70 and 90 per cent in the market for outpatient haemodialysis treatment. Notwithstanding, the acquisition was cleared on the basis that there would be no substantial lessening of competition in view of the following key factors: (i) barriers to market entry and expansion were not high; (ii) limited product differentiation across providers; (iii) ability of patients to switch dialysis centres; and (iv) in the vicinities where ARC’s and Orthe’s dialysis centres were near each other, there was at least one competing dialysis centre located nearby. CCS monitored the development of the market for a period of 30 months after the merger and found that generally the prices of haemodialysis treatments did not increase more in areas affected by the merger, and the average price for outpatient haemodialysis treatment in Singapore did not increase more than the average price of dental and medical treatments.

Acquisition of Parkway Holdings Ltd of Radlink-Asia Pte Ltd

On 11 March 2015, CCS blocked a proposed acquisition by Parkway Holdings Ltd of Radlink-Asia Pte Ltd. It was assessed that the proposed acquisition would result in a substantial lessening of competition in the markets for radiology and imaging services, as they were each other’s closest competitors pre-merger, and post-merger they would have very substantial market share. Further, CCS market inquiries indicated that no potential new supplier would enter the market in the next 2 to 3 years to compete with the merged entity. The proposed merger was subsequently abandoned.

3.2 Allocative Efficiency

While productive efficiency is about producing goods and services at the lowest possible cost, allocative efficiency is about allocating and diverting resources across the markets in an efficient way such that the right combination of goods and services is produced based on how they are valued by consumers. As a result, total welfare is maximised, and there is no way to make anyone, e.g. producer or consumer, better off without making someone else worse off.

For example, if an additional unit of a good X is valued by society at \$10, and if it costs \$7 to produce the next unit of Good X, then its production would be allocatively efficient, yielding a net welfare benefit of \$3 for society. In the absence of market failures, competition would drive existing or new firms to produce good X at the level where allocative efficiency is achieved, i.e., where the last unit produced provides as much benefit to society as it costs to produce it.

At the other extreme of intense competition is the case of a single supplier in the market, i.e. a monopoly. A monopoly has no competitor and hence faces no competition. As a result, it is able to charge as high a price as consumers are willingly to pay. To charge a high price and maximise its profits, the monopoly will have to sell less despite the fact that it can still make a profit from selling more. This is because selling more would require the monopoly to lower its price, and make lower profits overall. Such a situation is not allocatively efficient: If the monopoly sells more, though it will make lower profits overall, consumers will enjoy a higher welfare such that overall welfare will improve.

When all individual firms in a market collude to fix prices, they in-effect behave like a monopoly (i.e. no competition between them) and set prices artificially higher to maximise their collective profit. The high prices signal for more resources to be inefficiently allocated to that market. The firms also produce less than optimal, resulting in lower total welfare. In the Appendix, we provide a formal graphical exposition of how competition leads to economic welfare gains through allocative efficiency.

Price fixing of coach bus services – An illustration of Allocative Efficiency

In 2009, CCS decided that 16 coach operators and their trade association, the Express Bus Agencies Association (EBAA), had engaged in price-fixing of express bus services operating between Singapore and Malaysia from 2006 to 2008.

The investigations revealed that the coach Operators had agreed to fix coach prices through regular meetings arranged under the auspices of EBAA. They agreed to fix prices in 2 ways:

- i. Setting Minimum Selling Prices so that coach ticket prices remained either at or above them; and
- ii. Imposing Fuel & Insurance Charges across the board and revising it upwards several times to mark up ticket prices.

The financial penalties levied on the 17 infringing parties totalled S\$1.69 million.

It was found in a post-enforcement study conducted in 2013 that the prices of comparable bus tickets had fallen by 11 per cent following the breakup of the cartel. The actual impact of breaking up the cartel on lowering prices was likely to be greater, since the labour and fuel costs of the bus companies would have increased over this period.

3.3 Dynamic Efficiency

Dynamic efficiency refers to the extent to which innovations are introduced over time. Innovations may come in the form of new products, for example the introduction of seven-seater taxis in the taxi industry, or better processes, such as the development of taxi-booking mobile applications. Competition is essential for innovations, both by existing firms and by new entrants. Without competition, there is little incentive for firms to devote their profits towards improving the quality of their products or developing new products, services, or processes. Competition provides the opportunities to shift towards better technologies and products, and to displace inefficient players from the market, leading to increased productivity and economic growth.

The relationship between competition and innovation is in fact unclear, with theories and empirical studies offering opposing views.⁴ While competition stimulates innovation, firms' incentives to innovate also depend on whether they would be allowed to keep the profits from their innovations. In his book *Capitalism, Socialism and Democracy* (1950), Joseph

⁴ Empirically, Kamien and Schwartz (1982) find weak positive relationship between firm size and innovation, while Blundell, Griffith, and Van Reenen (1999) find that innovation is positively correlated with competition. Cohen (2010) provides a comprehensive survey of the empirical literature on the characteristics of markets and firms that affect innovation. In the theoretical literature, Arrow (1962) shows that monopolies have less incentives to innovate than competitive firms. On the other hand, Gilbert and Newbury (1982) show that when firms are allowed to patent their innovations, monopolists may have more to gain from winning patents than competitors, hence we may observe big firms persistently dominating the industry even with R&D competition.

Schumpeter, wrote about how large firms were the key to innovation and progress, in developing the idea of *creative destruction*.⁵

“We have just seen that, both as a fact and as a threat, the impact of new things – new technologies for instance – on the existing structure of an industry considerably reduces the long-run scope, and importance of practices that aim, through restricting output, at conserving established positions and at maximizing the profits accruing to them. We must now recognise the further fact that restrictive practices of this kind, as far as they are effective, acquire a new significance in the perennial gale of creative destruction, a significance which they would not have in a stationary state or in a state of slow and balanced growth. In either of these cases restrictive strategy would produce no result other than an increase in profits at the expense of buyers except that, in the case of balanced advance, it might still prove to be the easiest and most effective way of collecting the means by which to finance additional investment. But in the process of creative destruction, restrictive practices may do much to steady the ship and to alleviate temporal difficulties.”

In other words, Schumpeter was of the view that restrictive practices by large firms that protect their market positions were necessary for them to earn profits and allocate some of the profits towards research and development. When competition is intense, the profit that could be earned from an innovation diminishes, and hence too much competition may discourage innovation. In addition, it is often said that too much competition may result in a “race to the bottom”, when firms engage in price wars and compromise on the quality of goods and services.⁶

Either way, a certain degree of competition from either existing firms within the industry and/or from potential entrants is essential to drive innovation. In this regard, proactive monitoring of market developments by government agencies is important to facilitate the entry of innovative disruptions.

⁵ Schumpeter Joseph A. (1950). *Capitalism, Socialism and Democracy*. Harper-Collins, 3rd edn: New York

⁶ Chan, Jonathan and Fung, Herbert (2015), “Rebalancing Competition Policy to Stimulate Innovation and Sustain Growth”, CCS occasional paper

Innovation in third-party apps in the taxi industry – An illustration of Dynamic Efficiency

CCS proactively monitors market developments and works with relevant government agencies to facilitate innovative disruptions. An example is the entry of independent mobile applications (third-party apps) for taxi bookings into Singapore in late 2013.

The emergence of third-party apps for taxi bookings in Singapore took place against the backdrop of vehement protests and intense lobbying by taxi drivers and companies against these apps in different parts of the world. Much of the protest centred on how the third-party apps were not being subjected to similar regulatory requirements as licensed taxi operators.

While the commercial practices of the taxi industry comes under the purview of the competition law in Singapore, the Land Transport Authority (LTA) licenses taxi companies and regulates their service performance. Recognising that third-party apps provide additional choices for commuters and hence increase competition in the market for taxi bookings, CCS assisted LTA to ensure a conducive regulatory environment that struck a good balance between providing space for these third-party apps to grow, while ensuring sufficient safeguards for consumers.

Since the entry of the third-party apps, there have been indications that the market has benefited. For example, the matching of taxi supply to passenger demand improved from 65 per cent to 68 per cent from January to May 2014. The increase in competition for call booking appeared to have motivated improvements and innovations of the third-party and taxi companies' apps alike. For example, the apps had become more user-friendly through better interfaces, and passengers could save their credit card details on some of these apps to automatically make payments for their trips.

3.4 Productivity

In recent years, policymakers in Singapore have been concerned about the slowdown in labour productivity. Measures that have been implemented to help improve national productivity include establishing the National Productivity Fund, introducing the Workfare Training Scheme, and moderating the influx of low-skilled foreign workers. While these policies aim to stimulate productivity improvements within firms and sectors, the government also has a role in helping the economy restructure and shift resources towards more efficient firms and sectors, and efficient restructuring could be ensured by having competitive markets.

In an extensive survey of the literature on the determinants of productivity, Syverson (2011) identifies four factors that can contribute to productivity growth: (i) knowledge transfers between businesses, (ii) competition, (iii) effective regulation, and (iv) flexible input

markets.⁷ The second factor, i.e., competition, drives productivity growth through 3 mechanisms:

i. Better organisational practices

Competition exerts pressure on firms to look for better ways to organise their firms, such as by adopting new technologies, hiring better managers, or downsizing. Bloom and Reenen (2007) provide evidence for this by showing that better management practices is associated with more intense competition in the product market, using survey data from over 700 firms in the U.S., the U.K., France, and Germany.⁸

ii. Entry and exit of firms

By reallocating resources between firms and sectors, competition leads to market shares shifting from low-productivity firms to high-productivity ones, and eventually to low-productivity firms being driven out by high-productivity firms. In a study of how deregulation in the 1970s affected the US telecommunications industry, Olley and Pakes (1996) find that the “productivity growth that followed regulatory change seemed to result from the downsizing (frequently the shutdown) of (often older) unproductive plants, and the disproportionate growth of productive establishments (often new entrants).”⁹ Similarly, Pavcnik (2002) finds that following the Chilean trade liberalization programme in the 1970s, plants that continued to operate were 8% more productive than the plants that exited. Moreover, the productivity of plants in industries that were exposed to foreign competition improved by an additional 3% to 10%, suggesting that competition had forced the plants to “trim their fat”.¹⁰

iii. Product and process innovation

As discussed earlier, competition leads to dynamic efficiencies, i.e., the development of new and better products and production technologies. These innovations in turn lead to improvements in capital and labour productivity.

⁷ Syverson (2011), “What Determines Productivity?”, *Journal of Economic Literature* 2011, 49:2, 326–365.

⁸ Bloom, N., and J. Van Reenen (2007), “Measuring and explaining management practices across firms and countries”, *Quarterly Journal of Economics* (November): 1351–1408.

⁹ Olley, S. and Pakes, A. (1996), “The Dynamics of Productivity in the Telecommunications Equipment Industry”, *Econometrica*, 64, 1263-1297.

¹⁰ Pavcnik, Nina (2002), “Trade Liberalization, Exit, and Productivity Improvements: Evidence from Chilean Plants,” *Review of Economic Studies*, vol. 69(1), pages 245-276.

Competition and productivity in Australia

Australia has experienced notable success in improving productivity through a national competition reform programme. In 1992, governments in Australia commissioned an Independent Committee of Inquiry into a National Competition Policy, which led to the adoption of a number of policy recommendations in the 1993 Hilmer Report aimed at improving competition policy.

When the Australian Productivity Commission (APC) reviewed the results of the reforms in 2005, it concluded that the reform policies, along with other microeconomic reforms at that time, contributed significantly to Australia's productivity surge in the 1990s. The APC estimated that the observed productivity and price changes in key infrastructure sectors had increased Australia's GDP by 2.5 per cent, or by A\$20 billion.

A second, more focused, competition review was undertaken by Professor Ian Harper with a team of experts on 27 March 2014. It culminated with the release of the Harper Report on 31 March 2015, containing far-reaching recommendations that will impact many aspects of the Australia's economy. The government subsequently accepted a majority of the recommendations, saying that the reforms will unleash a wave of competition, boost economic growth and jobs, and improve consumer incomes.

4 The Complementarity between Competition and Other Public Policies

4.1 Competition Policy and Sectoral Regulation

In some sectors of the economy where structural conditions are incompatible with laissez faire competition, regulation is the more appropriate tool to ensure that markets function well. For example, the telecommunications networks, electricity grid, and public transportation industries involve fixed costs that are so high that it is only feasible to have a few firms, given the small size of the market in Singapore. In some of these industries, changes have been introduced to facilitate competition *for* markets, instead of competition *in* markets. An example is the move to a contracting model in the bus industry, where bus operators contest for the contract to run the service. Regulations may also be used to ensure economic stability, such as in the highly-regulated financial industry, or to serve specific social policy objectives, such as the provision of defence and security, of socially desirable goods and service, or the reduction of pollution.

While competition law is usually enforced *ex post*, i.e., after business practices have already taken place, regulation involves *ex ante* rules, i.e., rules which are put in place to prevent certain business practices from occurring. Regulations are often reviewed and refined according to the changing structures of their target industries. Moreover, while competition policy prescribes general guidelines on acceptable practices by businesses, regulatory rules are more detailed and may apply to specific firms.

Although generic competition law and sectoral regulation are appropriate for different industries, or different segments of an industry, they are different tools for the same purpose - to help markets work well. This is particularly so during the process of liberalisation, when regulation and competition law are both crucial in facilitating a transition from a regulated monopoly to a competitive market. Competition law enforcement should take into account the regulatory context and objectives, and regulation should be developed with consideration of their competition impact. Where competition enforcement is undertaken by sectoral regulators, there is a need to harmonise approaches as private companies' activities may well extend outside the regulated sector and come under the competition law's purview. This is particularly so as regulatory issues are becoming multi-faceted and many issues are increasingly cutting across different sectors.

For this reason, goods and services which are regulated by other law or competition codes are excluded from the Competition Act, e.g. electricity and gas, telecommunications, media and armed security services. Cross-sectoral competition matters are dealt with by CCS in consultation with the sectoral regulators. CCS and sectoral regulators also regularly meet as part of the Community of Practice for Competition and Economic Regulations ("COPCOMER") to share best practices and experiences on competition and regulatory matters within their purview.

4.2 Competition and Trade Policies

Singapore is a highly open economy, with its trade-to-GDP ratio of around 400 per cent (between 2008 and 2011) being the highest in the world.¹¹ Competition policy supports Singapore's openness and trade by limiting the ability of domestic firms to strategically block the entry of more efficient foreign competitors, and by protecting efficient local businesses from anti-competitive practices from overseas firms, so that foreign and local businesses can compete on a level playing field.

Being highly open also means that Singapore is susceptible to the effects of anti-competitive activities overseas. This can result in Singapore consumers or businesses paying more to cartels overseas.

¹¹ World Trade Organisation (2012), "Trade Policy Review: Singapore".

Anti-competitive practices from overseas

In 2014, CCS found 2 cases of price fixing by foreign companies and their Singapore subsidiaries. In both cases, CCS was alerted to the cartel after receiving an application for leniency by one of the colluding parties under the CCS's Leniency Programme.

The first case involved 4 Japanese ball bearing manufacturers. CCS's investigation revealed that they met regularly both in Japan and Singapore to exchange information, discuss and agree on sales prices for bearings sold to their respective aftermarket customers in Singapore, so as to maintain market shares and protect their profits and sales. Their actions included setting an agreed price list and making a minimum price agreement for Singapore, agreeing on exchange rates, and agreeing on percentage price increases to be applied when the price of steel began to increase.

The second involved 11 freight forwarding companies. It was found that the parties had collectively fixed fees and surcharges, and exchanged price and customer information on air freight forwarding services for shipments from Japan to Singapore. Both the Japan and related Singapore companies were found to be liable for the infringement, and the financial penalties amounted to S\$7.15 million.

While protecting competition in the domestic market, it is also important that Singapore works together with other countries in the region to identify and overcome common impediments to competition, reduce regulatory uncertainty, and build a strong competitive culture. This not only minimises the difficulties for competition authorities when it comes to cross-border antitrust cases, it brings larger benefits in providing an environment with clear and consistent laws for businesses to operate in. CCS has led the development of the ASEAN Experts Group on Competition (AEGC) portal which provides a platform for competition authorities to easily obtain information on competition law and developments in each of the member states. The relationship of the members of the AEGC is likely to tighten in the upcoming years, as the region continues to move towards greater economic integration, and as economies in the region become more developed. For example, ASEAN has adopted a new ASEAN Economic Community (AEC) Blueprint for 2025 to strengthen regional economic integration for the next decade. As part of the blueprint, the AEGC has also developed a new vision and competition action plan to guide ASEAN's competition policy post-2015. The action plan contains initiatives to support an overarching vision of a competitive, innovative, and dynamic ASEAN through effective and progressive competition policy and law.

4.3 Public Tendering and Procurement

The government procurement process in Singapore follows the Ministry of Finance's public procurement guidelines that seek to ensure fairness, transparency, and value for money (which balances between quality and price). An open and competitive environment

encourages suppliers to make their best offers, and helps government to secure the best value for money.

Bid rigging can and does occur in public tenders and procurement. Such conduct hurts government coffers and prevents government agencies from maximising value. Based on global experience, between 1990 and 2013, a total of 306 international bid rigging conspiracies were uncovered by competition authorities. This translates to an average of more than 1 bid rigging case uncovered every month, not to mention many others that remain covert. Bid rigging can cause prices to be raised by more than 20 per cent,¹² and almost 1 in 2 cases affects government procurement.¹³

For Singapore, based on CCS's perception and awareness survey in 2009, almost 1 in 2 businesses (46 per cent) perceive bid rigging to happen in Singapore. The same proportion indicated that it happens in their industry. This implies the importance of regular training for procurement and policy officers to prevent and detect bid rigging in public procurement based on international best practices.¹⁴

Bid rigging in public auctions for used vehicle

In 2013, CCS worked with other agencies to identify 12 used car dealers that were engaging in bid rigging involving public auctions for used vehicles, conducted by LTA, NEA, SCDF, Customs and SPF. The traders had agreed not to compete in the auctions, so that one of them could win at a low price. This group of traders would then share the gains from selling off the vehicles.

5 The Limits of Competition

5.1 Non-Economic Policy Objectives

Due to social or political considerations, policymakers may choose to adopt a weaker stance on competition issues than that based on pure economic reasoning. After all, economic efficiency is just one of the many important policy objectives. For example, providing training subsidies to small local businesses can be viewed as a form of market distortion, as they benefit only the eligible players. However, helping local start-ups could be a way to develop a spirit of entrepreneurship among Singaporeans, or in general, to develop local human capital.

¹² This is a median figure, a more accurate measure as the average figure is skewed upwards by a few international cases involving exceedingly high overcharge.

¹³ The statistics in this paragraph is based on the Private International Cartels (PIC) Dataset. Note that the database only includes international cartels, i.e., cartels with at least two members with different nationalities, and does not include cartels which operate within the confines of a single country. Therefore, these figures serve as conservative and minimum figures.

¹⁴ Interested government agencies should contact CCS to arrange for such briefings or trainings for their agencies. Information on preventing and detecting bid rigging in public procurement can be found in OECD's "Guidelines for Fighting Bid Rigging in Public Procurement" (<http://www.oecd.org/competition/cartels/42851044.pdf>)

As the previous section discusses, competition policy is also often complementary, rather than contradictory, to other policy goals, and policymakers can achieve desired outcomes more effectively by considering possible adverse impact on market competition of their interventions. Where assistance is required to assess the impact of government policies on competition, CCS may provide necessary advice upon requests by government agencies. The government agencies seeking inputs will then be able to consider CCS's competition advice together with their policy considerations as part of their policy-formulation process.¹⁵

5.2 Industrial Policy

For decades, the Singapore government has actively implemented measures such as tax breaks and subsidies targeted at specific manufacturing and services sectors, including electronics, biomedical sciences, and the banking industry. The objective is to support the growth of high value-added and high productivity sectors that would otherwise grow more slowly in the absence of government action. Again, actively supporting certain sectors may be viewed as a form of market distortion. Rather than relying on market forces, the success of industrial policy in contributing to economic growth depends crucially on the good judgement of policymakers, their flexibility in adapting quickly to new circumstances, and on ensuring that inefficient firms in a particular industry are not sheltered from competition. For example, in Singapore Budget 2016, a S\$4.5 billion Industry Transformation Programme was set up to support automation, help firms in the logistics and trade finance sectors, and boost innovation.

6 Emerging Issues

6.1 Behavioural Insights and Competition Policy

Behavioural economics combines psychology with economic theory to more accurately reflect how consumers and other economic agents make decisions. They explain why in some situations, cognitive biases and limited rationality may cause behaviour to systematically differ from what traditional economics predicts. Insights from behavioural economics have provided additional insights for competition policy.

First, it has been found that in some markets such as financial and insurance services, choices tend to be exceptionally "sticky", in that consumers do not switch from their current choices even when it is optimal to do so. One possible reason for such tendency to stick to the status quo (also called the "do-nothing syndrome") is that people avoid the mental effort of making a switch, especially when there is high uncertainty or complexity. This behavioural trait implies that consumers are less sensitive to available options, which means that firms effectively hold more "market power" than if consumers were better at switching.

Second, consumers may also make bad decisions due to an availability (or saliency) bias. Faced with complex information, consumers may rely on the most salient information

¹⁵ Information on seeking advice from CCS by government agencies can be found on CCS's website: <https://www.ccs.gov.sg/approach-ccs/seeking-advice-by-government-agencies>

available to make their decisions. Businesses may therefore exploit this by focusing on upfront payments and overcharging on overlooked add-on fees.

In addition, consumers are susceptible to the mistake of factoring sunk costs into their decisions, even though it is irrational to do so. By reminding consumers of financial commitments they have already made, businesses can induce consumers to continue paying more even when additional payments exceed how much they value the additional goods or services.

As another example of how consumers' willingness-to-pay may be manipulated, Dan Ariely describes an experiment in his book *Predictably Irrational* (2008)¹⁶, where students were asked to write down the last two digits of their social security numbers, and then asked how much they were willing to bid for a bottle of wine. Peculiarly, students who wrote down the highest numbers tended to bid the highest. That is, the thought of their social security numbers had acted as price anchors for students in valuing the wine. In real life, consumers may become more willing to pay if they are shown suggested retail prices or pre-discount prices (e.g. "was \$100, now \$50"), or if they see a "premium" (more expensive) product alongside another product.

In summary, the relevance of behavioural economics for competition policy lies primarily in providing new insights into how businesses may soften competition by exacerbating consumer biases. Careful assessment of each case in its particular context is required before deciding whether a conduct constitutes as anti-competitive, whether there is a need to intervene, and if so, what kind of intervention would work best. More fundamentally, behavioural economics has taught us that markets cannot be assumed to find their own solutions. The problem with behavioural biases is not that prices are not driven down by efficient firms, but that consumers systematically reward poor quality products.¹⁷ This means that besides competition policy, there is a need to ensure that consumers are able to access, analyse, and also act on information, and this implies a greater role for government in raising consumer awareness.

Microsoft's Internet Explorer - The Use of Default

In 2009, the European Commission made it legally binding on Microsoft to offer a choice screen letting Windows users choose which internet browser they wanted to install and select as their default. This arose due to concerns that Microsoft was tying its operating system to its browser Internet Explorer, thereby making use of its dominant position in the operating system market to also create dominance in the internet browser market.

The Commission's intervention ensured that users' ability to make their own choices was preserved, and that they could do so in an informed manner, which is aligned to the principle of liberal paternalism advocated by behavioural economists.

¹⁶ Ariely, D. (2010). *Predictably irrational: The hidden forces that shape our decisions*. New York: Harper Perennial.

¹⁷ Mehta, Judith (2013). *Behavioural Economics in Competition and Consumer Policy*.

6.2 Online Platforms and the Sharing Economy

Digital technologies have enabled the recent growth of online platforms such as Airbnb and Uber, sometimes referred to collectively as the “sharing economy”. The business models of these platforms vary widely, but they usually deliver substantial benefits to consumers, through greater convenience, choices and quality, as well as to businesses, through access to more consumers at lower costs. Some sharing platforms also allow smaller sellers to enter the market, improve matching between buyers and sellers, and may make use of feedback from users as a market-based quality control mechanism.

As with traditional non-digital network industries, firms may adopt strategies to build up customer base early in order to gain market dominance. In Airbnb’s case, when the number of apartment listings by hosts increases, consumers can find more choices on the platform and are therefore more likely to use the platform for their search. Having more consumers searching on Airbnb in turn attracts more hosts to list their apartments. This “winner-takes-all” situation may increase the incentive of sharing platforms to engage in anti-competitive practices to leap ahead of competition, such as by imposing exclusivity on users of the platform, leveraging market power in one product or service market into another market, or setting low prices to drive out competitors (predatory pricing).

Conventional principles used in competition analysis of standard markets have to be applied carefully or adapted in the context of platforms.¹⁸ For example, platforms often cross-subsidise across different groups of customers to encourage effective matching and maximise its usefulness. Therefore, it may be misleading to observe excessively high or low pricing at just one side of the platform and make antitrust conclusions, e.g. that the platform has market power, or that the platform is engaging in predatory pricing. For instance, the fee that Airbnb charges one side – the guests who rent the apartments – is in itself not an indication of market power, without taking into account the fee that it charges the other side – the hosts who list their apartments on the platform. Besides the differences arising due to the two- or multi-sided nature of platforms, an additional regulatory consideration is whether and how digital platforms should be allowed to collect, use, and control customer data.

The major difficulty in assessing the competition impacts and policy implications of online platforms as a whole lies in the diversity of their activities. While some platforms bring together individuals to share, rent, or swap under-utilised assets, others help to match consumers and service providers “on demand” (e.g. taxi-booking apps). Indeed, several competition authorities across Europe have launched investigations into, and public consultations on, the regulatory implications of online sharing platforms.¹⁹ While many of the issues raised from the consultations so far apply equally to traditional non-digital platforms, new regulatory and competition challenges may emerge as the sharing economy continues to develop and its impacts are better understood.

¹⁸ Wright, Julian (2004), "One-sided logic in two-sided markets." *Review of Network Economics*, 3(1), 42-63.

¹⁹ Cooper et al. (2015), “Problems with the European Commission’s Platform Survey and Lessons Learned from the Economics of Multi-Sided Platforms and Privacy”, Competition Policy International.

7 Conclusion

Singapore's competition policy – with its mix of the invisible hand of the markets and the visible hand of good governance – has served Singapore well in past decades of economic growth and development. This would not be possible without the careful management of the government's interventions in markets, the integration of competition considerations in other public policies, and a sober recognition of the limits of competition. As Singapore enters a new phase of growth and markets continue to evolve, new balances will have to be struck but the principles will remain: The problems in many markets cannot be resolved without government intervention or oversight, and government policies will need to take into account market principles and competition dynamics.

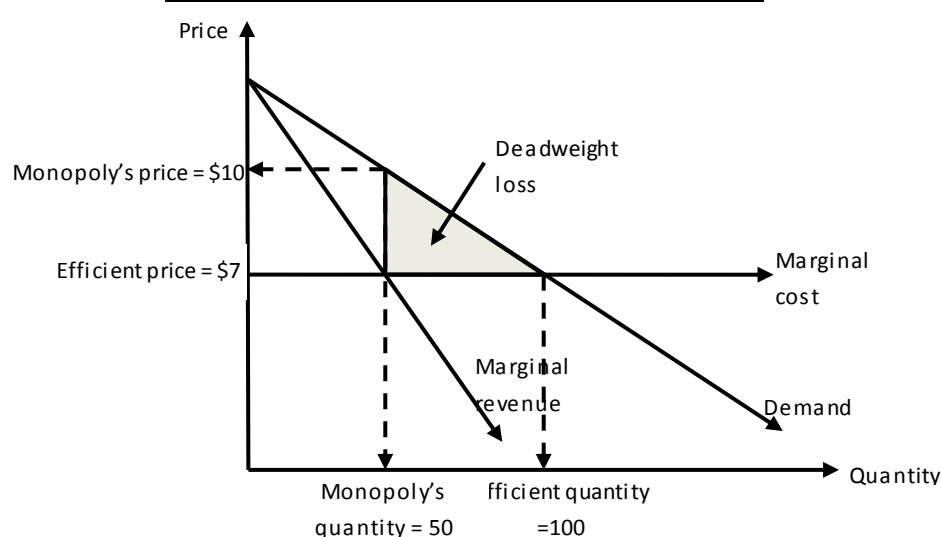
Appendix – Graph of Allocative Efficiency

In Figure 1, we assume for simplicity that the firm's cost of producing an additional unit stays the same at \$7 for every level of output, so that the marginal cost is represented with a horizontal line. The demand curve, which is also the marginal benefit curve, is downward sloping – consumers demand more of the good as its price fall. The allocatively efficient level of output occurs where the marginal cost curve intersects the demand curve. In this example, the efficient quantity is 100, and the corresponding efficient price is \$7 per unit.

Suppose that instead competition, there is a monopoly in the market, or firms collude to fix the price at the profit-maximizing level. To maximise profit, the monopoly sells at the quantity where the additional revenue from the last unit sold, i.e., the *marginal revenue*, equals to the additional cost. This is because if the marginal revenue exceeds the marginal cost, profit can be increased by selling an extra unit, since it brings in more revenue than it costs to produce that unit. Similarly, profit can be increased by selling less if the marginal revenue is lower than the marginal cost. Profit-maximization therefore occurs where the marginal cost curve intersects the marginal revenue curve. In our example, the profit-maximizing quantity is 50, and the corresponding price to charge is \$10 per unit.

How could we quantify the loss to society as a result of the monopoly charging a higher price and producing a lower level of output than the socially efficient level? Based on the demand curve, at the monopoly's price and quantity, consumers value an additional unit of the good at \$10, but it would cost only \$7 to produce the unit. In other words, there are surpluses that could be enjoyed by production, that are lost because the monopoly has no incentive to expand production. The total *deadweight loss* for society as a result is represented by the shaded triangle. With competition, more resources would efficiently be directed towards producing this good and the shaded triangle diminishes until there is no more deadweight loss at the efficient quantity.

Figure 1: Allocative inefficiency of monopolies



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