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Economists

The Automotive Parts Industry in Singapore

A market study for the Competition Commission of Singapore

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Executive Summary

Purpose of study

HoustonKemp Pty Ltd (HoustonKemp) has been engaged by the Competition Commission of Singapore (CCS) to undertake a market study on the automotive parts industry in Singapore. The objective of this study has been to assist the CCS to understand the aftermarket supply of and demand for automotive parts in Singapore and to identify any aspects of the industry that are likely to be impeding competition.

The lack of readily available information on Singapore's automotive parts industry necessitated the generation of original data for this engagement. HoustonKemp subcontracted Spire Research and Consulting Pte Ltd (Spire) to undertake a bespoke survey exercise, which involved interviewing around 50 industry participants.

The information in this report has been largely based on this survey information, with supporting evidence from other relevant sources where available.

The analysis contained in this report is not intended to provide an assessment of the legality of any observed conduct under Singapore's Competition Act. Rather, our objective has been to identify features of the relevant markets that are likely to be limiting competition in the industry.

Industry overview

Automobile regulations and sales in Singapore

Although the focus of this study is the aftermarket automotive parts industry rather than automobiles, demand and supply conditions for automotive parts are influenced by certain features of Singapore's automobile industry.

Compared to other countries in the region, Singapore's car population is relatively young, mainly due to the Certificate of Entitlement (COE) scheme. This reduces the demand for parts as newer cars are less likely to break down and car owners are less willing to undertake costly maintenance procedures towards the end of a vehicle's COE life.

Over 90 per cent of vehicles in Singapore are sold through authorised dealers, which typically have an exclusive licence with the manufacturer to import and sell vehicles of a given brand. These cars are sold with warranty packages ranging from 3 to 5 years. In order to maintain the warranty, car owners generally must:

- have the vehicle serviced according to the manufacturer's servicing schedule at the relevant dealer's authorised workshop; and
- have all other repair and maintenance work during the warranty period undertaken by the relevant dealer's authorised workshop.

Categories of automotive parts

The industry encompasses parts for servicing, maintenance, repair, appearance and performance enhancement and provides a wide variety of parts. There is no universally accepted categorisation of parts, with distributors and other car part sellers providing a variety of breakdowns. However, a useful categorisation includes:

- engine parts;
- chassis and body parts;
- suspension parts;

- servicing parts; and
- electrical and air conditioning parts.

The supply of automotive parts into Singapore

Although there is no domestic manufacture of automotive parts in Singapore, the country is situated close to regional manufacturing hubs in Thailand and Indonesia, which account for 47 and 34 per cent of car production in ASEAN in 2014.¹ Also, a number of original equipment manufacturers (OEMs) have established hubs for the distribution of their parts within Singapore,² increasing the flow of parts and making it easier for businesses and individuals in Singapore to obtain parts.

There are four main types of automotive parts:

- Original Equipment (OE) parts that are genuine,³ come in packaging marked with the car manufacturer's brand and may be manufactured by the car manufacturer or purchased from automotive parts manufacturers for resale;
- Original Equipment Manufacturer (OEM) parts that are also genuine but sold directly by the parts manufacturer rather than through the car manufacturer. These parts bear the brand of the OEM rather than the car manufacturer;
- generic parts produced by other manufacturers, which are essentially copies of the genuine parts and may be of similar or lower quality; and
- reconditioned or second-hand parts.

The suitability of generic parts depends on the nature of the part. For example, generic versions of less complex or critical parts are more likely to be acceptable substitutes for genuine parts than, for instance, engine or chassis parts.

In Singapore, it has been estimated that around 70 per cent⁴ of aftermarket automotive parts used in premium car brands (e.g. Mercedes Benz, BMW) are genuine parts, as compared to about 50 per cent in mass market brands (e.g. Toyota, Honda, Nissan, Hyundai).

The countries from which automotive parts are imported varies depending on whether the parts are OE, OEM or generic:

- OE parts generally come from the country of origin of the vehicle manufacturer (e.g. Japan, Germany);
- OEM parts are manufactured globally and there are many OEMs located in the South East Asian region;
- generic parts are also manufactured globally and there are many manufacturers in countries in the region, for example, we understand a large proportion of these parts are sourced from China.

The demand for automotive parts in Singapore

There are three main uses of automotive parts in Singapore:

- servicing and maintenance;
- repair, for cars or automotive parts that have been damaged (e.g. through accidents) or broken down; and
- vehicle customisation.

¹ <http://www.bangkokpost.com/business/news/459332/thailand-to-remain-hub-says-analyst>

² Singapore – Automotive Industry, Singaporean-German Chamber of Commerce, May 2014; Haw Cheng Ng (2010).

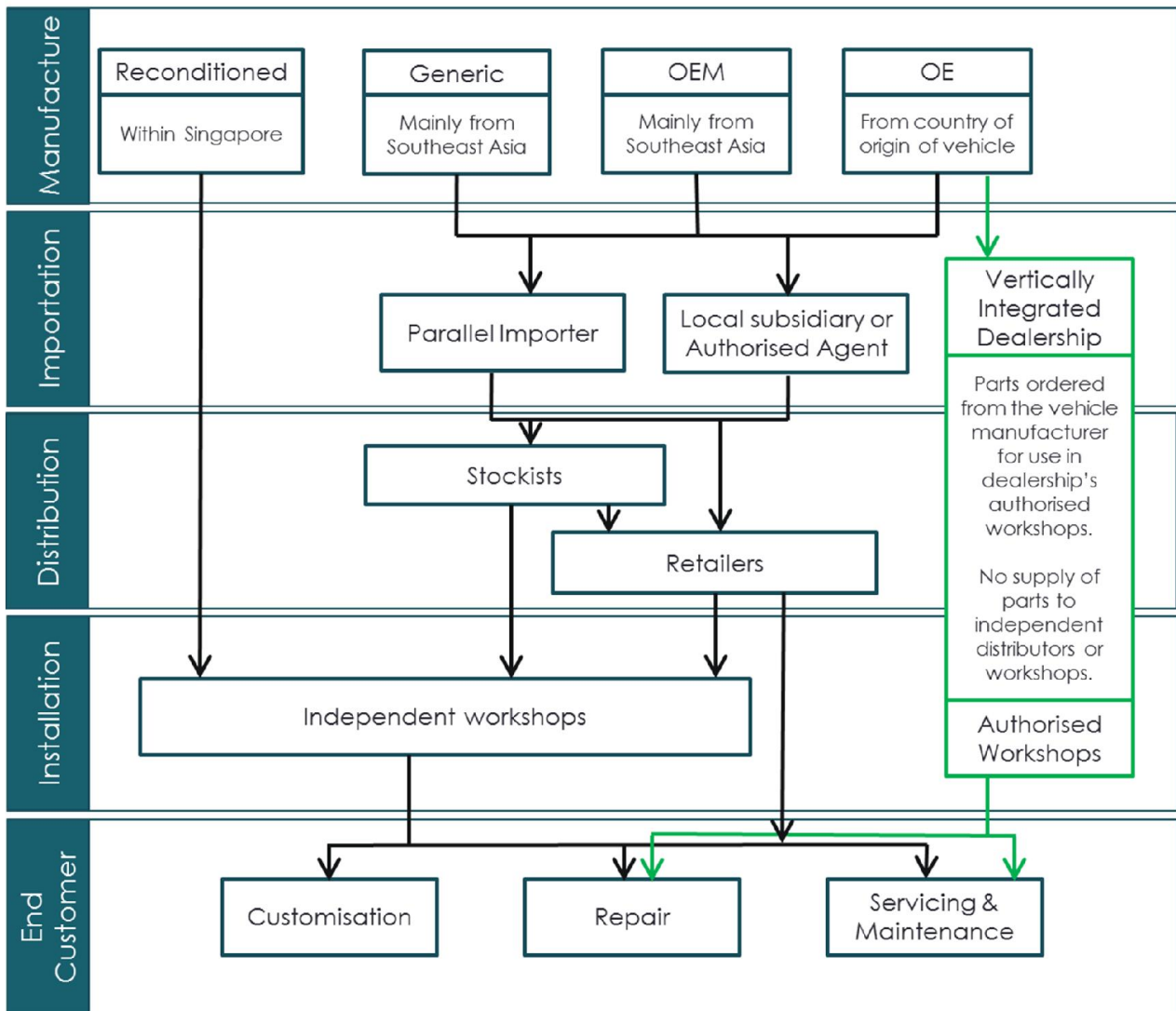
³ 'Genuine' parts are defined for the purposes of this report as being those that are produced according to the vehicle manufacturers specifications, which may include the relevant patents.

⁴ Interview transcript 30.

The industry supply chain

An overview of the supply chain is depicted below. It should be noted, however, that this is a simplification of the existing practices and a number of firms outside the vehicle dealerships also operate across several stages of the supply chain.

Figure 1: Supply chain of automotive parts in Singapore



Manufacturers are located outside Singapore. OE parts are sourced from the country of origin of the vehicle whereas the generic and OEM parts are more likely to be sourced regionally, particularly from China, Thailand, Malaysia and Indonesia. Second-hand (including reconditioned) parts are ‘harvested’ rather than manufactured. The majority of second-hand parts supplied in Singapore are sourced from cars scrapped within Singapore.

Vertically integrated dealerships, the sole authorised dealers of respective car brands in Singapore, are the most significant industry players within Singapore. The major dealers are franchises of global car manufacturers. They generally undertake the following activities:

- the sale of automobiles;

- the procurement of OE parts for use in their workshops; and
- the repair and maintenance of vehicles through their own workshops (or, for the smaller brands, through workshops with whom they have contractual arrangements).

They are estimated to have a share of between 45 and 55 per cent of parts sales, by volume, to end-customers (depending on the vehicle brand) and a significantly higher per cent by value.

Importers may be representatives of parts manufacturers, local subsidiaries of OEMs, authorised agents or independent (parallel) importers. The stockists and retailers may purchase through importers located within Singapore or within the Southeast Asian region.

Stockists and retailers are both distribution firms within the distribution layer of the supply chain. Stockists are large distribution firms more likely to operate from a warehouse rather than a shop-front. They sell to retailers as well as directly to workshops. Compared to retailers, they offer a lower level of customer service but greater discounts for volume orders. Retailers, on the other hand, are smaller firms more likely to sell automotive parts from a shop-front. They sell predominantly to workshops but also supply car owners directly. Compared to stockists, their prices are likely to be higher but they generally offer more immediate delivery of the part.

Independent workshops do not share common ownership with the authorised vehicle dealers. These workshops generally service a wide range of vehicle brands and use a mix of OE, OEM, generic and second-hand parts. **Insurance companies** play a significant role in the purchase of car parts for the purpose of accident repair, influencing the decisions of car owners through the use of mechanisms such as:

- a list of approved workshops that clients may choose from to carry out repair works (if they wish to make an insurance claim) – the approved workshops usually include both dealer-owned and independent workshops;
- vehicle surveyors and assessors who review the damage in order to contain both the scope and price of work undertaken under insurance claims; and
- approved price lists for parts that provide a cap on replacement claim amounts (these prices may be based on the prices provided by the authorised workshops)

The relevant markets

The relevant markets focus on the aftermarket sales of automotive parts; this does not involve the initial sales and assembly of automotive parts into brand new cars. We have defined the relevant markets by reference to three dimensions:

- the functional market;
- the product market; and
- the geographic market.

For practical purposes, our competition analysis is structured according to the functional market dimension.

The functional market

We have identified separate relevant markets at each of the following functional stages of the supply chain:

- markets in which parts are sold from importers to distributors (the “importation markets”);
- markets in which parts are sold from distributors to workshops (the “distribution markets”); and
- markets in which parts are sold from workshops to end-customers, in conjunction with mechanic services (the “installation markets”).

We have defined the markets to include both the vertically integrated vehicle dealerships and the independent suppliers at each level of the supply chain, as:

- the existing competition limitations for warranty-covered vehicles is a construct of the lock-in provisions of the warranties rather than an indication of customers' true willingness to switch between independent and authorised workshops; and
- including the throughput of parts handled by these companies in the market analysis provides a clearer picture of the impact of the conduct of dealerships (and vehicle manufacturers) on end customers.

The product market

The boundaries of the product market can be determined with respect to the vehicle brand for which the part is designed and the part itself.

With regard to the vehicle brand, we have taken a conservative approach to defining the market boundaries and identified separate markets for the parts designed for each vehicle brand. The rationale for this is that consumers are unable to substitute between automotive parts manufactured for different brands once they have purchased a vehicle.

Within each brand market, we have included all parts designed for that brand, whether they are OE, OEM, generic or reconditioned automotive parts.

We have taken a purposive approach to defining the market boundaries for the automotive parts rather than defining separate markets for each specific part. Defining separate markets for each specific part is unlikely to be useful for the purpose of this study. Moreover, the demand and supply conditions are closely related to the use to which the part is most often put. We therefore define separate markets for parts which are generally used for the following purposes:

- servicing and maintenance;
- repairs; and
- customisation.

Geography

In our opinion, the relevant geographic market varies according to the stage of the supply chain, as follows:

- importation markets – regional (Southeast Asia), as distributors purchase through agents who may be located within Singapore or nearby countries and regularly compare prices between agents in different locations;
- distribution markets – Singapore-wide, as workshops purchase from stockists and retailers located throughout Singapore; and
- installation markets – Singapore-wide, as the size of Singapore suggests workshops throughout the Island place a competitive constraint on one another's prices.

Summary

The following table summarises the relevant markets we have identified in this industry.

Table 1: Summary of identified markets

Functional level	Product		Geography
	Branding	Parts	
Importation markets	Disaggregated by the vehicle brand for which the part is manufactured but inclusive of all OE, OEM, generic or second-hand parts	Disaggregated by main use <ul style="list-style-type: none"> • servicing and maintenance • repairs • customisation 	Southeast Asia
Distribution markets			Singapore
Installation markets			Singapore

Competition Analysis: Importation markets (from importers to distributors)

Our review of the market conditions in the importation markets suggests the following:

- The vertically integrated dealerships are likely to have between 45 and 55 per cent, by volume, of the share of sales of parts within each vehicle brand (and a significantly higher proportion by value) and:
 - > do not supply OE parts to downstream competitors (although the vehicle manufacturer is likely to have other agents within the region supplying OE parts to these competitors);
 - > have exclusive arrangements with authorised workshops that precludes competing suppliers from engaging with these workshops;
 - > set the prices at which the downstream affiliates may on-sell the parts to end-customers (which may or may not be dictated by the vehicle manufacturer) as part of the services provided;
- outside the effects of the vertically integrated dealerships:
 - > there is considerable competition for supply to distributors;
 - > there is no evidence of barriers to entry significantly impacting competition; and
 - > buyers (distributors) are able to switch easily and at relatively little cost between suppliers.

With regard to the theories of harm we identified as being potential impediments to competition in these markets, we found the following:

- foreclosure of supply to downstream distributors – unlikely as there are multiple paths through which automotive parts are supplied into Singapore and distributors did not report finding it difficult to source for the parts they require. This is true for OE, OEM and generic parts;
- foreclosure of demand for competing suppliers (other importing firms) – the vehicle dealerships’ policies of purchasing parts only from their associated vehicle manufacturers through their importation activities, combined with their relatively high market shares, may limit the ability of competing importers to gain economies of scale in Singapore. However, somewhat mitigating this factor, it appears to be relatively easy and cost effective to import parts into Singapore and the impact of increasing the contestable part of the market may not have a significant impact on the number of firms supplying parts in Singapore;
- resale price maintenance (RPM) – only found to be present within the vertically integrated dealerships. No evidence of RPM found in the case of importers directing the prices of the distributors, and even if there was, cannot be effectively implemented due to competitive pressures from other suppliers; and
- collusion or tacit coordination – no evidence of collusion or tacit coordination was found within these markets.

In sum, outside the vertically integrated dealerships, we found that the large number of importers and the informed nature of customers (distributors), combined with their ability to by-pass importers, suggest that prices in these markets are likely to be constrained to relatively competitive levels.

Competition Analysis: Distribution markets (from distributors to workshops)

Our review of the distribution markets suggests the following:

- the authorised vehicle dealerships are likely to have between 45 and 55 per cent, by volume, of the share of sales of parts within each vehicle brand (and a significantly higher proportion by value) and they:
 - > do not supply OE parts to downstream competing workshops;
 - > have exclusive arrangements with the authorised workshops that precludes competing suppliers from selling to these workshops (with some exceptions in case of shortage of parts);
 - > set the prices at which the authorised workshops may on-sell the parts to end-customers (which may or may not be dictated by the vehicle manufacturer);
- outside the effects of the vertically integrated dealerships:
 - > there is considerable competition for supply to independent workshops from stockists and retailers;
 - > there is no evidence of barriers to entry significantly impacting competition into the distribution market; and
 - > buyers (independent workshops) are able to switch easily and at relatively little cost between suppliers.

With regard to the theories of harm we identified as being potential impediments to competition in these markets, we found the following:

- foreclosure of supply of parts to competing (independent) workshops – unlikely as distributors outside the vertically integrated dealerships did not report finding it difficult to source the parts, whether OE, OEM or generic, their customers (workshops) require;
- foreclosure of demand for competing suppliers (distributors) – the authorised workshops' policies of purchasing parts only from their associated vehicle manufacturers, combined with their relatively high market shares, may limit the ability of competing distributors to gain economies of scale in Singapore. However, given the degree of existing competition in these markets, it is not evident that increasing the contestability of this segment of the market would result in significant tangible benefits to independent workshops, in the form of either a wider range of parts or lower prices for parts;
- RPM – no evidence of RPM was found outside the authorised vehicle dealerships; and
- collusion or tacit coordination – no evidence of collusion or tacit coordination was found within these markets.

In sum, outside the vertically integrated dealerships, we found that the large number of stockists and retailers (especially for servicing parts) and the informed nature of customers (independent workshops), combined with their ability to by-pass distributors, suggest that prices in these markets are likely to be constrained to relatively competitive levels.

Competition Analysis: Installation markets (from workshops to vehicle owners)

The supply and demand conditions within this market vary significantly depending on whether the parts are more commonly associated with:

- servicing and maintenance;
- repairs; or
- customisation.

We therefore separately address the competition aspects of parts predominantly used for each purpose.

Servicing and maintenance

Our review of the installation markets in which automotive parts are sold in conjunction with mechanic services for the purpose of servicing and maintenance suggests:

- the vertically integrated dealerships are likely to hold significant market power, at least in part related to the fact that such dealerships are provided on an exclusive basis within Singapore, for example:
 - > even though the vertically integrated dealerships have approximately the same market shares (between 45 and 55 per cent) in the installation markets as in the importation and distribution markets, the installation markets (particularly the servicing and maintenance and repairs markets) are where the harm to consumers is directly felt;
 - > vertically integrated dealerships do not offer the option of purchasing a car without warranty and the terms and conditions of warranties require customers to have all servicing and repair work undertaken at authorised workshops. This increases the cost and risk to customers of choosing independent workshops and translate into barriers for customers intending to use independent workshops;
 - > dealerships that own workshops authorise only their own workshops to undertake services and repairs under the terms and conditions of the warranties⁵ and the authorised workshops are able to command a significant price premium over independent workshops;
 - > dealerships that do not own workshops generally authorise a preferred workshop to undertake services and repairs and generally charge a significant mark-up (on both labour and automotive parts) to customers over the cost charged by the independent workshops;
 - > independent workshops do not have access to proprietary equipment and technology, or are unable to justify the investment in these, and are therefore unable to provide the full range of services offered by the authorised workshops;
- vertical arrangements within the vertically integrated dealerships are likely to be influencing market outcomes for car owners:
 - > authorised workshops are required to source all parts from the in-house purchasing arm, which in turn sources all parts from the relevant vehicle manufacturer;
 - > the prices at which these parts are sold to end-customers may be set or otherwise influenced by the vehicle manufacturers;
- the independent workshops operate at the competitive fringe:
 - > there is a large number of workshops providing services;
 - > customers are able to switch easily and at relatively little cost between independent workshops.

With regard to the theories of harm we identified as being potential impediments to competition in these markets, we found the following:

- foreclosure of supply of parts to competing workshops – is unlikely, as distributors are able to source products to supply to workshops from a number of sources;
- foreclosure of competitors' access to key industry inputs (i.e. technical information and diagnostic equipment) – although it is unclear whether independent workshops are unable to secure the necessary technical inputs as a result of explicit policies by the vehicle manufacturers or because of economies of scale, it seems likely that the independent workshops' inability to offer a full range of services results in poorer outcomes for car owners;
- foreclosure of demand for competing workshops – the degree of customer lock-in to the authorised workshops due to warranties appears to be sufficiently significant to result in poorer outcomes (in the form of significantly higher prices) to car owners;

⁵ This refers to both warranties offered by the car manufacturer and the car dealer, and will be discussed in more detail in the main report.

- RPM – the prices authorised workshops charge for automotive parts are set by either the parent company (which has a franchise agreement with the vehicle manufacturer) or otherwise influenced by the vehicle manufacturer supplying the parts, through the franchise agreement. Whether this conduct fits within the definition of RPM will depend on the nature of the arrangements in place. However, the tie-up between the workshops and the vehicle manufacturers, along with the degree of customer lock-in and the observed difference in prices between independent and authorised workshops, strongly suggests that vertical conduct is having an anti-competitive effect; and
- collusion or tacit coordination – early evidence of price fixing behaviour between independent workshops were found to instead reflect a lack of understanding of the technicalities of price fixing conduct under the Competition Act and an inaccurate representation of effective prices paid by end customers, given special packages and discounts offered by independent workshops.

Repairs

Our review of the installation markets in which automotive parts are sold in conjunction with mechanic services for the purpose of repairs suggests:

- the vertically integrated dealerships are likely to hold significant market power for similar reasons as in the servicing and maintenance markets;
- aside from the vertically integrated dealerships, the degree of market concentration may be higher than in the service and maintenance markets, due to:
 - > insurance companies' approval of select workshops (although the approved workshops are not limited to the authorised workshops, they do not include all independent workshops) ;
 - > the administrative and cash flow issues associated with insurance-related work, which dissuades a number of smaller workshops from undertaking such jobs;
 - > the likelihood that the technical diagnostic equipment is more critical for repair than service and maintenance work;
- the presence of insurance companies increases the degree of countervailing buyer power, however:
 - > not all repair work is covered by insurance companies; and
 - > although insurance companies are very concerned about containing the cost of claims, they are less concerned to ensure that the quality of the parts used is consistent with the basis of the claim cap.

With regard to the theories of harm we identified as being potential impediments to competition in these markets, we found the following:

- foreclosure of competitors' access to key industry inputs (i.e. technical information and diagnostic equipment) – is likely to limit independent workshops' ability to effectively compete in these markets; and
- foreclosure of demand for competing workshops – the degree of customer lock-in to the authorised workshops due to warranties appears to be sufficiently significant to result in poorer outcomes (e.g. in the form of significantly higher prices) to car owners.

Customisation

Compared to either the servicing and maintenance markets or the repair markets, the market for customisation parts and services differs in several key respects, notably:

- the authorised workshops do not undertake customisation of vehicles;
- customers seeking customisation of their vehicles are more likely to be aware of the parts and services they require and more likely to be able to research the likely cost of these through word of mouth and via the internet;
- customisation jobs are unlikely to have the same degree of urgency as repairs as car owners are able to use their cars while waiting for parts; and

- the specialised nature of these parts and services may limit the number of workshops customers are able to choose from.

On balance, it seems unlikely that any workshop, or group of workshops, will have significant market power in the customisation markets. Supporting this, our market research exercise did not elicit any evidence of abuse of power in these markets.

1. Introduction

1.1 Project objectives

HoustonKemp has been engaged by the Competition Commission of Singapore (CCS) to undertake a study into the automotive parts industry in Singapore.

Recently, the aftermarket automotive parts (automotive parts) industry has come under close scrutiny by competition authorities in a number of jurisdictions, resulting in several antitrust cases involving horizontal and vertical agreements. For example:

- the revised block exemption arrangements established by the European Commission (EC) in 2010 were intended to increase competition in the market for repair and maintenance by improving access to technical information needed for the repairs and by making it easier to use alternative spare parts.⁶ Prior to this, the EC adopted four decisions that legally bound DaimlerChrysler, Toyota, General Motors and Fiat to commitments to provide technical information about car repairs to all independent garages in the European Union. These commitments were given after the Commission found that inadequate access to the full range of technical information could drive independent repairers from the market;⁷
- a number of automotive parts makers, in particular those from Japan, have been fined over two billion dollars for price fixing by several competition authorities over the past few years, including the Department of Justice,⁸ the European Commission,⁹ the Canadian Competition Bureau, and the Japanese Fair Trade Commission;
- in 2014, eight automotive parts suppliers in China were fined RMB 1.24 billion (around S\$250 million) for price fixing and bid rigging practices in relation to the global investigation of price fixing and bid rigging of automotive parts.¹⁰ The National Development & Reform Commission (NDRC) has also been investigating vertical restraints on pricing of after-market auto-parts and service, including restraints on the prices dealers charge for automotive parts;¹¹ and
- in 2014, 14 car companies in India were fined Rs 25.54 billion (around S\$550 million) for imposing absolute restrictive covenants and completely foreclosing the aftermarket for spare parts and other diagnostic tools.¹²

Given the prevalence of such antitrust findings, particularly within Asia, and the openness of the Singapore economy to automotive parts imports, the CCS is interested in exploring the nature of competition within Singapore's automotive parts industry.

The objective of this study has therefore been to assist the CCS to understand the aftermarket supply of and demand for automotive parts in Singapore, including the industry players involved in the supply chain, the nature of supply agreements, the characteristics of relevant markets and possible impediments to competition in each market identified.

⁶ http://europa.eu/rapid/press-release_IP-10-619_en.htm

⁷ http://europa.eu/rapid/press-release_IP-07-1332_en.htm

⁸ Investigation in the US has resulted in charges against 26 companies and 29 individuals and more than \$2 billion in criminal fines for participation in conspiracies to fix prices of and rig bids on automobile parts, including safety systems such as seat belts, air bags, steering wheels, and antilock brake systems, and critical parts such as ant vibration rubber, instrument panel clusters, starter motors, and wire harnesses. Twenty-three of the individuals have pleaded guilty or agreed to plead guilty and have agreed to serve prison sentences ranging from a year and a day to two years. See <http://www.justice.gov/atr/public/division-update/2014/criminal-program.html>, accessed 4 November 2014.

⁹ See http://europa.eu/rapid/press-release_IP-13-673_en.htm, accessed 4 November 2014.

¹⁰ Cleary Gottlieb, China's NDRC Targets Automotive Industry, August 2014, p.1.

¹¹ Cleary Gottlieb, China's NDRC Targets Automotive Industry, August 2014, p.2.

¹² See <http://www.ft.com/cms/s/0/6f63584c-2ce4-11e4-911b-00144feabdc0.html#axzz3HbbGhJX9>, accessed 4 November 2014.

1.2 Project scope and limitations

The scope of this project has been limited to the Singapore automotive parts industry. While the sale of aftermarket automotive parts can be considered to be related to the primary sale of new cars, these two products have been recognised as belonging in separate product markets by authorities in other jurisdictions.¹³ A brief consideration of the market definition factors listed by the CCS in its *Guidelines for Market Definition*,¹⁴ which we have summarised in the following table, suggests that treating these as separate markets is likely to be appropriate in Singapore also.

Table 2: Consideration of market definition factors listed in the CCS Guidelines

Influencing Factor	Comments
Price proportion - buyers are more likely to adopt a whole-life costing approach if the secondary product is a higher proportion of the primary product's price.	The lifetime maintenance costs of vehicles in Singapore are likely to be a lower proportion of the total price than in other countries due to: <ul style="list-style-type: none"> the 10-year life of the COE, which reduced the average age of cars owned in Singapore; and the cost of the COE and other vehicle charges that inflate the vehicle price.
Size of purchase – Large companies may be better able to do whole-life costing than smaller companies or final consumers.	Our analysis has focused on the vehicles owned by private individuals in Singapore.
Availability of information – Whole-life costing will be more difficult if buyers lack specialised information on the costs of spare parts and services, and the reliability of products.	In comparison to other markets with primary and secondary products that are considered to be closely linked (such as razors and blades, printers and cartridges, etc) the degree of uncertainty regarding whole-life costs is considerably higher in the case of vehicles and after-market parts. Such uncertainty stems from the variability in car reliability as well as a lack of information regarding average reliability rates and relative costs. The amount of research a customer would need to do in order to form a reasonable estimate of the whole-life costs for across car brands would be enormous.
Uncertainty – It would be difficult to adopt a whole-life costing approach if there is uncertainty about how often spare parts or servicing would be required.	While the costs of servicing are likely to be able to be estimated for each vehicle type, the costs associated with break-downs and general repairs is likely to be subject to considerable uncertainty.

In addition, our study does not consider anticompetitive conduct or impediments to competition that may be present in the supply of automotive parts before they reach Singapore. Similarly, while we touch on some issues relating to the sale of new cars, analysis of the competitive conditions in these markets are outside the scope of this study.

This study covers the supply of automotive parts for private, company, rental and tuition cars, but excludes that for motor cycles, goods vehicles, buses and taxis. It also excludes primary supply of automotive parts by Original Equipment Manufacturers (OEMs) to car manufacturers for the assembly of new motor cars.

¹³ For example, the European Union in its proposal future competition law regime for the motor vehicle sector.

¹⁴ Paragraph 6.7.

The extent of readily available information on the automotive parts industry in Singapore is extremely limited and the majority of the information upon which this report has been based has been sourced through a bespoke market research exercise, which is discussed in greater detail below. We therefore focused on the automotive parts of the six leading car brands in Singapore, which together comprise around 60% of the car sales. These brands are:

- Toyota;
- Honda;
- Nissan;
- Mercedes Benz;
- Hyundai; and
- BMW.

The survey-based market research exercise has provided a rich picture of the Singapore automotive parts industry, drawing on the views of around 50 participants from various parts of the industry. However, as with all survey-based information, care must be taken in interpreting the results. In particular, it should be noted that although the information provided in this report reflects the generated information, there is always a risk regarding the accuracy of certain comments and points raised by respondents. Where possible, we have verified information across respondents and through our secondary research.

The purpose of this exercise has not been to provide the CCS with sufficient evidence to form the basis of a legal case or to necessarily test any conduct against the legal requirements set out in Singapore's Competition Act. Rather, the purpose of this engagement has been to provide an understanding of the industry and identify any aspects that are likely to be impeding competition.

1.3 The market research exercise

The pre-existing publicly available information on the automotive parts industry in Singapore is relatively sparse. In particular, we found it very difficult to obtain pre-existing industry information regarding:

- the revenues generated within the industry;
- the structure of the supply chain;
- the nature of players within the different stages of the supply chain;
- market shares or concentration rates; and
- the nature of competition at each of the relevant stages of the supply chain.

Given the lack of transparency regarding the nature of competition in this industry, it was imperative to generate data to meet the CCS's needs. We therefore subcontracted Spire to undertake a bespoke market research exercise, which largely consisted of undertaking around 50 face-to-face and telephone interviews with relevant industry players, as well as secondary research on the industry. These respondents were largely selected on a random basis to ensure fair sampling of views in the industry. The respondents to the survey were comprised of individuals from the following types of firms:

- authorised car dealer companies and their related authorised workshops for the six car brands this study focused on;
- distributors of automotive parts;
- independent workshops (those not owned and operated by the vertically integrated dealerships);
- independent individuals familiar with the Singapore vehicle insurance industry (industry experts);
- insurance companies; and

- several major players with operations in more than one layer of the supply chain.

A list of respondents is attached at Appendix A1 and the questions at Appendix A2. The individual transcripts have been separately provided to the CCS.

The information generated by Spire has been supplemented by:

- pre-existing information on the industry within Singapore where available (including the websites of the major players);
- information on the way in which the industry operates in certain other jurisdictions, where similar concerns were raised; and
- economic research and analysis regarding certain observed market features.

1.4 Report outline

The remainder of the report is structured as follows:

- Section 2 provides a high-level overview of the industry;
- Section 3 defines the relevant markets within the Singapore automotive parts industry;
- Sections 4 to 6 consider the competitive conditions within each of the identified markets; and
- Section 7 provides some concluding comments.

2. Overview of the Industry

2.1 Introduction

One of the principal objectives of this study has been to assist the CCS understand the aftermarket supply of and demand for automotive parts in Singapore. The focus has therefore been on the distribution, retail and installation of automotive parts after the sale of the car. The study does not include the sale and installation of automotive parts in brand new cars nor does it consider automotive parts competition matters outside of Singapore.

That said, the conditions governing the sale of automobiles in Singapore has a number of significant implications for the relevant automotive parts markets. We therefore begin this section with a brief discussion of the nature of automobile sales within Singapore.

2.2 An overview of automobile sales in Singapore

There are several aspects of the automobile industry in Singapore that have a significant impact on the structure and competitive conditions of the automotive parts industry. Specifically:

- Singapore's unique approach to managing the growth in vehicle numbers affects the quantity and type of parts required;
- the brand penetration of the vehicles influences the automotive parts that are required; and
- the single vertically integrated dealership structure and warranty arrangements affect the choices consumers have in their servicing, and therefore parts purchasing, arrangements.

We therefore provide a brief overview of these factors as they relate to the current study, before describing Singapore's automotive parts industry.

2.2.1 Government policies affecting the demand for vehicles

Singapore's car population is tightly controlled by the size of the government's pre-determined quota system, under which a Certificate of Entitlement (COE) provides the right to use road space in Singapore. Anyone who wishes to register a new vehicle in Singapore must first obtain, via open auction, a COE, which has a 10 year life.

The quota is determined based on factors such as the targeted growth rate for cars and the average number of cars deregistered in the preceding three month period. For example, the quota for November 2014 to January 2015 was set at 11,932, based on a growth rate of 0.5%. However, the annual growth rate from February 2015 to January 2018 is to be decreased to 0.25% to address road congestion concerns.¹⁵

Recently, the COE system appears to be resulting in a reduction in vehicle numbers, which has been attributed at least in part to a mismatch between cars scrapped in the preceding months and cars scrapped in the following months.¹⁶ For example, in 2014, there were 619,023¹⁷ registered cars in Singapore but by February of this year this figure had fallen to 598,219 cars, the lowest level since 2011. This downward trend is expected to continue for the next few years unless the current COE formula is changed.¹⁸

¹⁵ <http://www.lta.gov.sg/apps/news/page.aspx?c=2&id=4d26c497-c1bd-4327-9932-23077a6b4804>

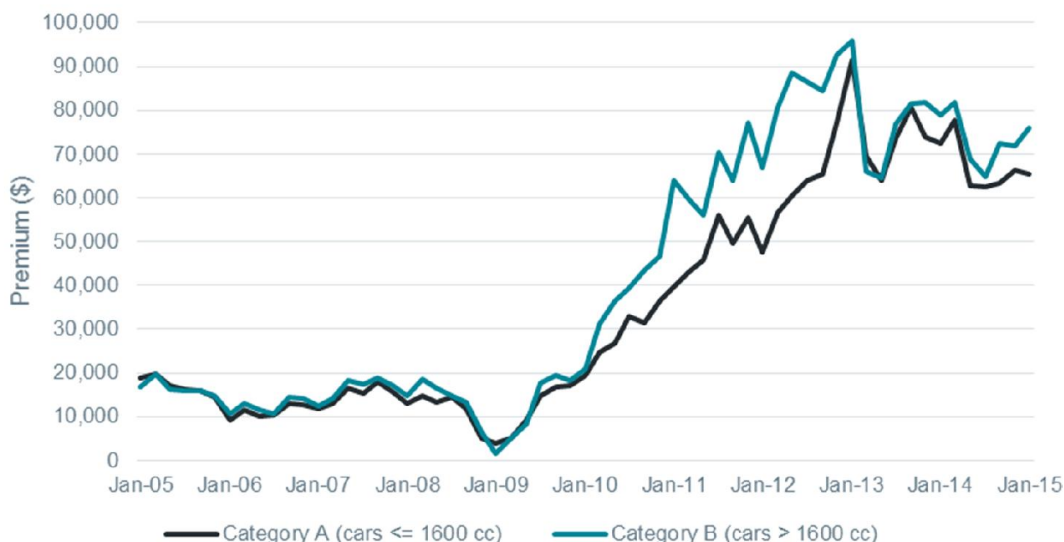
¹⁶ <http://www.straitstimes.com/news/singapore/transport/story/fewer-cars-the-road-coes-play-catch-20150226>

¹⁷ Land Transport Authority of Singapore, "Land Transport Statistics in Brief 2014".

¹⁸ <http://www.straitstimes.com/news/singapore/transport/story/fewer-cars-the-road-coes-play-catch-20150226>

COE premiums fluctuate depending on a variety of supply and demand factors and have generally increased significantly in recent years.

Figure 2: COE premiums in Singapore, 2005 – 2015



Source: HoustonKemp analysis of LTA data.

After reaching 10 years of age, cars owners have the choice of renewing the COE for their cars (by paying the three-month moving average quota premium¹⁹) or de-registering their cars. However, as car owners must pay approximately the same amount of COE premium on their 10-year-old car as on a brand new car, and the COE premium usually makes up a large part of the total cost of a car, car owners generally do not renew their COE at the end of 10 years.

As a result, the car population in Singapore is relatively young. For example, the average age of cars in Singapore in 2014 was 6.6 years²⁰ as compared to the average of 7.5 years in South East Asia, 9.4 years in Europe, 10 years in Australia and 10.5 years in America.²¹

This COE arrangement affects the demand for automotive parts in a number of ways:

- newer cars are less likely to break down and require parts to be replaced due to wear and tear;²²
- car owners are unwilling to undertake significant maintenance expenditure on cars that are reaching the end of their COE; and
- car owners are more likely to service cars regularly during warranty periods (in order to maintain the warranty), and so the higher proportion of cars covered by warranty in Singapore is likely to increase the relative demand for 'consumable' parts, such as filters.

As an additional measure, since February 2013, car owners have been limited to borrowing no more than 60 per cent of the purchase price of a car when the vehicle's open market value is \$20,000 or less, and 50 per cent of the purchase price when open market value is more than \$20,000, with the loan to be repaid over a

¹⁹ <http://www.lta.gov.sg/content/ltaweb/en/roads-and-motoring/owning-a-vehicle/vehicle-quota-system/certificate-of-entitlement-coe.html>

²⁰ Source: HoustonKemp analysis of LTA data.

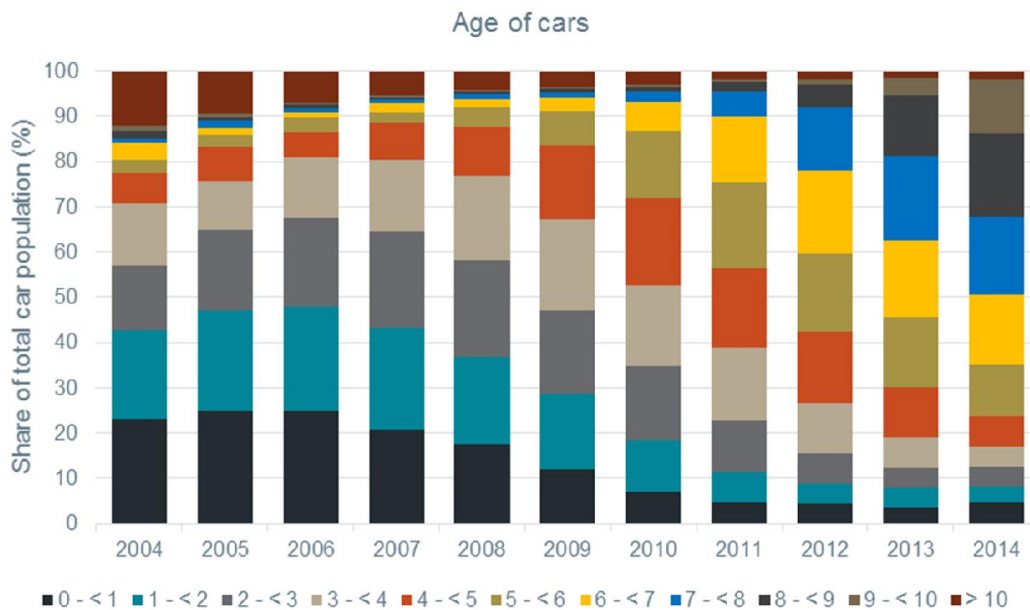
²¹ Source: Market trend analysis by Frost and Sullivan: <http://www.searchautoparts.com/aftermarket-business/market-trend-analysis/parts-suppliers-poised-growth-southeast-asia> and Global Fuel Economy Initiative website.

²² Singapore: Automobiles and Vehicle Parts & Accessories, Haw Cheng Ng, U.S. Commercial Service Department of Commerce, November 2010.

period of five years. This is in contrast with the prior situation under which up to 100 per cent of the purchase price of a car could be financed through a loan, with a repayment period of up to 10 years.

The recent increase in COE premiums combined with the financing restriction has caused more people to use their cars for longer rather than purchase new cars, as seen by the trend of car population getting older over recent years.

Figure 3: Age distribution of cars in Singapore, 2004 – 2014



Source: HoustonKemp analysis of LTA data.

2.2.2 Brand penetration

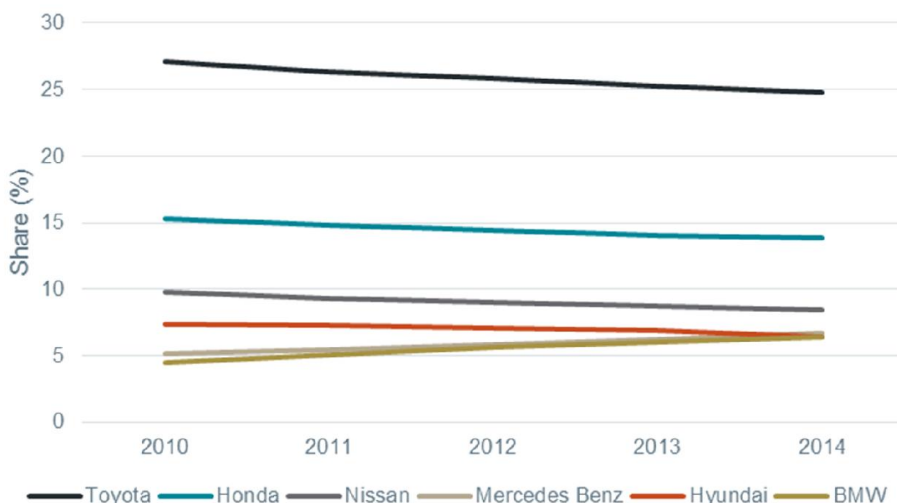
The top six car brands in Singapore are Toyota, Honda, Nissan, Hyundai, Mercedes Benz and BMW. Figure 4 shows that the supply of cars in Singapore (by brand) is relatively fragmented. The largest player, Toyota, accounted for just over 25 per cent of car sales in Singapore between 2010 and 2014, with the other car brands having significantly lower shares of sales. Together, the top six brands accounted for around 60 per cent²³ of sales.

These figures include parallel imported cars, which made up 6 per cent²⁴ of the total car population in Singapore in 2014.

²³ Source: LTA data.

²⁴ "Parallel car imports accelerate, thanks to Japanese models", STCars, 29 October 2014.

Figure 4: Share of car sales in Singapore (volume), 2010 – 2014



Source: HoustonKemp analysis of LTA data.

2.2.3 Industry structure for vehicle sales

Authorised dealers typically have exclusive licences to bring in and sell cars from the overseas car manufacturers. For example, Cycle & Carriage is the only dealer of Mercedes Benz cars and Performance Motors is the only dealer of BMW cars. As noted in Footnote 22, the authorised dealers make up around 94 per cent of new car sales.

Globally, car manufacturers have, in recent years, undergone a series of mergers and acquisitions. For example, BMW AG acquired the Mini and Rolls-Royce brands, Daimler AG divested the Chrysler brand and General Motors acquired the Opel, Chevrolet and Holden brands, among others. Most of these ownership arrangements are reflected in the distribution of car brands by authorised dealers in Singapore, in that the authorised dealers carry the relevant family of brands.

However, this is not always the case. For example, while the Volkswagen Group globally owns a number of brands (e.g. Volkswagen, Porsche, Audi, Skoda, Bentley and Lamborghini), these brands are brought into Singapore by different dealers. For example, Volkswagen cars are brought in by Volkswagen itself, while Audi cars are brought in by Premium Automobile, an authorised dealer.

The following table sets out the authorised dealers for each of the top 6 brands and the other brands sold by their authorised dealers.

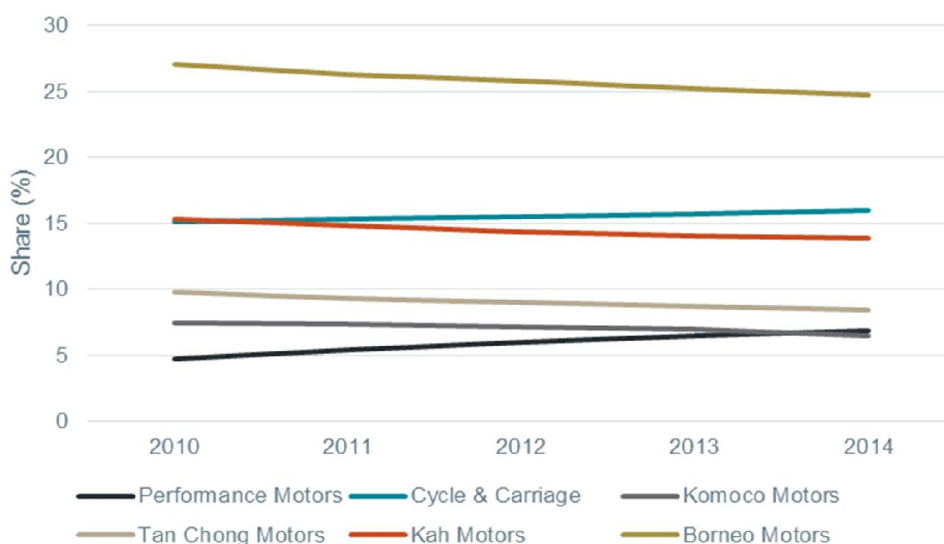
Table 3: Major authorised dealers

Top 6 brands	Authorised dealer with vertically integrated authorised workshops	Other car brands distributed by authorised dealer in Singapore
Toyota	Borneo Motors	Lexus
Honda	Kah Motor	
Nissan	Tan Chong Motors	
Mercedes Benz	Cycle & Carriage	Kia, Mitsubishi, Citroen
Hyundai	Komoco Motors	Ferrari
BMW	Performance Motors Limited	Mini, Rolls-Royce

Source: Respective authorised dealers' websites and interview transcripts. Note that the M model of BMW cars are included in total BMW sales in Singapore but are distributed by Munich Automobiles rather than Performance Motors Limited. The sales of these models only constitutes a small proportion of total BMW sales.

The share of new car sales of the major authorised dealers in Singapore is broadly consistent with the brand share figures, as the authorised dealers usually have only one main selling brand. The exception is Cycle & Carriage, which has Mercedes Benz as well as Mitsubishi and Kia, which also have significant sales. We note that our sales figures include cars that are parallel imported, but that should not significantly affect the results as parallel imported cars make up only 6 per cent of Singapore's car population.

Figure 5: Share of car sales of main authorised dealers in Singapore (volume sales), 2010 – 2014



Source: HoustonKemp analysis of LTA data. We note that the LTA data did not include car sales under the Lexus and Hino brands, and are unable to obtain sale figures for these brands. LTA data also did not make the differentiation between cars bought through authorized dealers and cars brought through parallel importers. We have therefore included all parallel imported cars in this analysis.

2.2.4 Warranty arrangements from authorised dealers

Brand new cars purchased from authorised dealers generally come with a warranty in Singapore, and none of the car companies Spire spoke with offer a 'no warranty' option. Warranties generally range from two to five years, and authorised dealers indicated that the industry maximum warranty period is 5 years.²⁵

A summary of the warranty packages offered by the six main authorised dealers in Singapore is shown in Table 4.

Table 4: Summary of warranty packages by authorised dealers in Singapore

Car brand	Authorised dealer	Warranty duration	Warranty conditions
Toyota	Borneo Motors	5 years ²⁶	Unlimited mileage
Honda ²⁷	Kah Motor	3 years	Unlimited mileage
Nissan	Tan Chong Motors	3 + 2 years	First 3 years comes with a cap of 100,000 km mileage (whichever comes first), and the other 2 years will kick in automatically after that First 3 servicing are included in cost of car
Mercedes Benz	Cycle & Carriage	3 years	Cap of 100,000 km mileage (whichever comes first)
Hyundai	Komoco Motors	5 years	Unlimited mileage
BMW	Performance Motors Limited	3 years	Cap of 100,000 km mileage (whichever comes first)

Source: Interview transcripts and websites of respective authorised dealers.

Car warranties in Singapore typically cover defects in materials or workmanship, but excludes service items or components that require periodic replacement or adjustment as a normal part of wear and tear.²⁸

For some vehicle brands, the warranties are provided by both the manufacturer and the authorised dealer, with the manufacturer warranty generally applying to the earlier years of the warranty and the authorised dealers offering extensions to the manufacturer warranty. From the information publicly available, we have not been able to determine the exact breakdown for all brands. The following table summarises the breakdown information we have found.

²⁵ Interview transcript 17

²⁶ Borneo Motors provides a 10 year warranty on the batteries of its hybrid cars. Source: <https://www.borneomotors.com.sg/en/service/toyota/hybridwarranty.html>

²⁷ <http://www.honda.com.sg/cars/warranty.htm>

²⁸ For example, see BMW's warranty http://www.pml.com.sg/bmw/services/after_sales_service/warranty.html

Table 5: Break-down of warranty packages between manufacturer and vertically integrated dealership

Car brand	Manufacturer (or factory) warranty	Dealer warranty
Toyota ²⁹	3 years or 100,000 km	2 years from expiration of manufacturer's warranty, no limitation on mileage
Nissan ³⁰	3 years or 100,000 km	2 years
BMW ³¹		All 3 years referred to as "The BMW dealer warranty"

Source: Interview transcripts with respective authorised dealers and authorised dealers' websites.

In order for car owners to maintain the validity of their warranty from the authorised dealers, they generally must:

- have the vehicle serviced according to the manufacturer's servicing schedule at the relevant dealer's authorised workshop; and
- have all other repair and maintenance work during the warranty period undertaken by the relevant dealer's authorised workshop.

The bigger authorised dealers, such as Cycle & Carriage, Performance Motors, Kah Motors and Borneo Motors, each have their own authorised workshops (we have termed such dealers "vertically integrated dealerships"). The vertically integrated dealerships do not authorise any independent workshops to service the cars they sell. They justify this on the basis of the need to ensure that vehicles are serviced using original (vehicle branded) parts and with the necessary expertise.³²

We were not able to discover whether the terms and conditions of the warranties or the decision regarding workshop authorisation are determined by the dealerships or the vehicle manufacturers but we make the following observations:

- only the early years (usually 3) of the warranty period are typically covered by manufacturer warranty. After this initial period, the warranty is provided by the dealership, at which point all terms and conditions would be set by the dealer;
- the same condition requiring that car owners only service or repair their cars at the authorised workshops apply throughout the lifespan of both the manufacturer and dealer warranties;
- it is potentially in the interests of both the vehicle manufacturer and the dealer to authorise only workshops owned and operated by itself:
 - > this locks in customers to the use of the dealership's authorised workshop or allows the dealer to charge a significant premium should it choose to outsource to an independent workshop (although the franchisee may need to pay a higher franchise fee as a result);
 - > this allows the vehicle manufacturers to sell a greater volume of OE parts by requiring that authorised workshops only sell and use these parts; and
 - > if the vertically integrated dealerships were to authorise competing workshops, this would put pressure on prices, resulting in lower profits for either or both the vehicle manufacturer and the dealer.

²⁹ <http://www.toyotasingapore.com.sg/aftersales/service/warranty.aspx>

³⁰ <http://nissan.com.sg/ForOwners/afterSales.cfm> and transcript

³¹ http://www.pml-bmw.com.sg/asia_dl/sg_en/owners/service/allfacts/warranty.html

³² Interview transcript 22.

The trend to use cars for longer has lowered the proportion of cars under warranty over recent years. We have analysed this based on two assumptions of warranty duration, 3 years or 5 years, and estimated that between 13 and 24 per cent of the cars in Singapore are currently under warranty.

Figure 6: The percentage of cars estimated to be under warranty, 2004 to 2014



Source: HoustonKemp analysis of LTA data. Again, parallel imported cars were included in the analysis but that should not significantly affect the results.

All of the six main authorised dealers have said that all vehicles under warranty must be serviced and maintained by their authorised workshops.³³ After the warranty on a car expires, the proportion of owners using the authorised workshops drops significantly. For example, one respondent estimated that 80 per cent of car owners choose to service their cars at authorised workshops if their cars are three years old, compared to 50 per cent if their cars are seven years old and only 10 per cent at 10 years old.³⁴

The reason for this drop-off over time is most likely due to the cost differential, as authorised workshops can charge 2 to 3 times as much as an independent workshop for comparable products (parts and services bundles) depending on the workshops being compared against and the comparability of the parts being used (OE versus OEM, for instance).³⁵ The reasons for this price difference are likely to include:

- customers covered by warranty have no choice as to the workshop they are able to use if they wish to retain their warranty;
- customers may be unwilling to switch to unfamiliar workshops at the end of the warranty period, despite a price difference;
- the independent workshops are unable to provide the full range of services offered by the authorised workshops; and
- the 'authorised' status of these workshops may confer expectations of superior quality in the minds of consumers.

³³ Additional information requested from authorised dealers.

³⁴ Interview transcript 30.

³⁵ Interview transcript 1.

2.2.5 Parallel imports

Parallel importing is legal in Singapore and parallel imported cars are generally priced lower than those purchased through the authorised dealers.³⁶ According to the authorised dealers, this price difference is attributed to differences in the vehicle specifications and services.³⁷ For example, authorised dealers claim that parallel imported cars often have fewer internal features than cars from authorised dealers, and some parallel importers may be perceived as having an insufficient support team to service customers' warranty claims.³⁸ The relative strength of these claims is unclear and we understand it is unlikely parallel importers share this view but, regardless of the price difference, only around 6 per cent of cars are purchased from parallel importers. This suggests that the authorised dealers' vehicles are perceived by customers to be of higher value than those of the parallel importers.

Parallel importers generally include warranty packages on the cars that they sell, often comparable to that offered by authorised dealers (i.e. 5 years or 100,000 km mileage, whichever comes first).³⁹ There are some parallel importers, however, that offer only very basic warranty packages where the warranty is only for one year, and the car owner has to top up in cash if they wish extend the warranty.⁴⁰ Similar to the authorised dealers, parallel importers may have tie ups with independent workshops and require car owners to have servicing and repairs carried out by their preferred workshops, or even operate their own workshops.⁴¹

2.3 Categories of automotive parts

Before describing the automotive parts industry in Singapore, it is useful to provide further detail regarding the general descriptions of the various types of parts.

The industry encompasses parts for servicing, replacement, accident, appearance and performance and provides a wide variety of parts. There is no universally accepted categorisation of parts, with distributors and other car part sellers providing a variety of breakdowns.

The following categorisation has been based on information from Spire, interviews⁴² and a review of the websites of several large automotive parts stockists.⁴³

³⁶ Interview transcripts 17 and 22.

³⁷ Interview transcript 27.

³⁸ Interview transcripts 17 and 22.

³⁹ Interview transcripts 3 and 9.

⁴⁰ Interview transcript 2.

⁴¹ Interview transcript 3.

⁴² Interview transcript 23.

⁴³ <http://minghee.com/prod.asp>, http://www.jaeauto.com.sg/our_products.html, <http://tyesoon.com/products>

Table 6: Automotive parts categorisation

Engine Parts	Chassis and Body Parts	Suspension Parts	Servicing Parts	Electrical and Air Con
Cylinder Heads	Lamps	Shock Absorbers	Air filters	Actuator
Pistons	Doors	Suspension arm & member	Oil filters	Air mass sensor
Piston rings	Radiator grilles	Ball joints	Fuel filters	Air con condenser
Rocket arms	Bumpers	Tie rods	Air-con filters	Alternator
Clutch discs and plates	Fenders	Rack ends	Spark plugs	Bulbs
Gaskets	Roofs		Brake pads and brake discs	Blower motor/fan
Timing belts and V belts	Trunk lids			Condenser
Bearings	Bonnets			Control unit
Engine mountings	Exhaust, Muffler, Silencer			Control point
Water pumps	Mirrors			Distributor
Starters and alternators				In-car computer systems
Fuel pumps				Pressure regulator

In general, the 'servicing parts' category of products are more likely to be associated with servicing and maintenance, particularly in Singapore where the relatively young age of cars reduces the extent of long-term wear and tear related maintenance expenditure. The demand for these parts may then be characterised as more predictable, and the turnover of the individual parts more rapid, than for other categories of parts.

2.4 The supply of parts into Singapore

2.4.1 OE, OEM, generic and reconditioned parts

There are four main types of automotive parts supplied to Singapore:

- Original Equipment (OE) parts that are genuine, come in packaging marked with the car manufacturer's brand and may be manufactured by the car manufacturer or purchased from automotive parts manufacturers for resale. We estimate that at least 50 per cent of the parts used in Singapore are OE parts (based largely on estimates of work undertaken by the authorised workshops);
- Original Equipment Manufacturer (OEM) parts that are also genuine but sold directly by the parts manufacturer to agents or distributors rather than to or through the car manufacturer and do not bear the car manufacturer's brand. Around 10 per cent of the parts used in Singapore are estimated to be OEM parts (based on estimates of the ratio of generic to genuine parts reportedly used in Singapore);
- generic parts produced by other manufacturers, which are essentially copies of the genuine parts and may be of similar or lower quality. We estimate that between 30 and 40 per cent of parts used in Singapore are generic (based on estimates provided by independent workshops and industry experts); and
- reconditioned or second-hand parts. Such parts are estimated to make up a small proportion of the parts used in Singapore, approximately less than 5 per cent.

Brand new cars come with genuine OE parts installed that bear the brand of the car manufacturer.⁴⁴ These OE parts are often not manufactured by the car manufacturers themselves, but by original equipment manufacturers. OEMs bid for the right to manufacture the various parts of a new car model, and are generally locked up in two to five year contracts with the car manufacturer and can only supply these parts to the car manufacturer during that time frame. Only after the contract expires is the OEM able to sell the automotive parts more widely, for example through agents to distributors.⁴⁵ There is essentially no product difference between OE and OEM parts and car manufacturers are often required to have more than one supplier of automotive parts to prevent over-reliance on any single OEM.

Examples of the top OEMs are Robert Bosch (Germany), Denso Corp (Japan), Aisin Seiki (Japan), Continental (Germany) and Magna International (Canada) (carrying out automotive operations through Cosma International⁴⁶).⁴⁷ These OEMs may be linked by common ownership to car manufacturers, for example, Aisin Seiki, Denso and Toyota Motors are all part of the Toyota Group. While 64.5 per cent of Aisin Seiki's sales are to Toyota Motors, it also manufactures automotive parts for other car manufacturers like Volkswagen Group (11 per cent), Mitsubishi (2 per cent) and Suzuki (2 per cent).⁴⁸

In contrast to genuine parts, generic parts can potentially have significant quality differences.⁴⁹ We understand that it is easier to use generic parts for some types of automotive parts but not for others, depending on the use of the automotive part as well as its importance to the proper functioning of a car. For example, the following types of parts are less likely to be suitable for generic substitutes:

- engine parts;
- computer-related parts; and
- some body parts.

On the other hand, we understand that the following types of parts are more likely to have readily substitutable generic counterparts:

- filters, spark plugs, wiper blades, bulbs, and other small, non-technical parts;
- air conditioners; and
- suspension systems.

In Singapore, it has been estimated that around 70 per cent of automotive parts used in premium car brands (e.g. Mercedes Benz, BMW) are genuine (both OE and OEM) parts, as compared to about 50 per cent in mass market brands (e.g. Toyota, Honda, Nissan, Hyundai).⁵⁰

Reconditioned or second-hand automotive parts may be either genuine or generic, but are essentially used parts that have been salvaged by workshops or parts dealers and possibly reconditioned for use in another car. Reconditioned parts are not commonly used by car owners in Singapore, although there are a few small workshops that specialise in only providing reconditioned parts.⁵¹ The use of these parts may be more common for accident repairs.⁵²

⁴⁴ Interview transcript 16.

⁴⁵ Interview transcript 25.

⁴⁶ <http://www.magna.com/capabilities/body-chassis-systems/about-cosma>

⁴⁷ Top 100 Global Suppliers, the top 100 global OEM parts suppliers ranked by 2012 global OEM parts sales, Automotive News, June 2013.

⁴⁸ FY 2015 3rd quarter Consolidated Financial Report, AISIN SEIKO Co. Ltd., February 3 2015.

⁴⁹ Interview transcript 7.

⁵⁰ Interview transcript 30.

⁵¹ Interview transcript 15.

⁵² Interview transcript 1.

Whether the automotive parts used are genuine, generic or second hand partly depends on where the car is being serviced or repaired. Cars that are serviced or repaired at authorised workshops use only OE parts, whereas cars that are serviced or repaired at independent workshops can use either genuine or generic parts, depending on the customer's preference. At independent workshops, major repair works (involving engine and chassis parts) are more likely to use genuine parts as these are considered to be more essential to the proper functioning of the car and customers are less likely willing to take the risk of using generic parts due to quality concerns. Customers have higher tendency to choose generic parts for fast moving parts, termed "wear and tear" parts that are used frequently in regular routine servicing works.

2.4.2 Source countries

There is no domestic manufacture of automotive parts in Singapore so all automotive parts, with the exception of second-hand or reconditioned parts (which are largely sourced from within Singapore), are imported.

The countries from which automotive parts are imported vary depending on whether the parts are OE, OEM or generic.

OE parts cannot be obtained other than through the relevant car manufacturing company. They therefore generally come into Singapore from the country of origin of the vehicle manufacturer. For example, BMW OE parts come from Germany; Honda, Toyota and Nissan OE parts from Japan.⁵³ However, these parts may have been manufactured in a third country, where the OEMs have manufacturing factories, such as Thailand or Malaysia, and then exported to Japan, for example.

OEM parts are more widely available and there are many OEMs located in the South East Asian region and headquartered in Singapore. For example, Robert Bosch (SEA), the OEM of BOSCH automotive parts, is headquartered in Singapore with subsidiaries in Malaysia, Indonesia, the Philippines, Thailand and Vietnam and their Automotive Aftermarket and Securities Systems division also has its Asia Pacific headquarters in Singapore.⁵⁴ It also has seven manufacturing sites in Southeast Asia, including Malaysia, Thailand, and the newest being an automotive plant in Vietnam.⁵⁵

Generic parts are produced by a large variety of countries, including those that are in the region. For example, we understand there are a large number of generic parts manufactured in China.

2.5 Drivers of demand for car parts

There are three main uses of car parts in Singapore:

- servicing and maintenance, used in the regular servicing of cars, to ensure that parts in the car function well;
- repair, for cars that have been damaged (e.g. through accidents); and
- vehicle customisation, where car owners change automotive parts in a car for reasons other than servicing and repair works (e.g. for better performance of the car).

While there is some overlap, engine and body parts are more often used in the case of car repairs, although the actual parts used can vary significantly depending on the type of accident repair undertaken, whereas the servicing parts are commonly used in regular maintenance services. Almost any kind of parts can be used for car customisation, depending on the car owner's preference.

⁵³ Interview transcript 4.

⁵⁴ http://www.bosch.com.sg/en/sg/our_company_8/locations_8/location_10369.html

⁵⁵ Bosch in Southeast Asia, Corporate Brochure.

Servicing and maintenance works are carried out on cars on a regular basis. Automotive parts used for these jobs are therefore considered to be more “fast-moving”, like brake pads and air and oil filters,⁵⁶ and there can be said to be a consistent level of demand for these parts over time. These parts may also be referred to as wear and tear parts. Depending on the age of the car, different parts are used for servicing at different phases of the car’s life. For example, a relatively new car often only needs replacement of parts like oil and air-conditioner filters and oil chains but when the car gets older, other parts like brake discs start to require replacement.⁵⁷

Repair works are less common, and only take place when cars are involved in accidents or are otherwise damaged. As such, the automotive parts related to repair works, like engines parts and body parts that do not regularly need changing are often referred to as “slow-moving” parts. Repair jobs can sometimes involve a large number of parts (e.g. up to 20 parts per job) and the parts differ between repairs, making demand for repair parts harder to predict. As a result, not all distributors and workshops have ready stock of the less frequently used parts.

Customisation work results from neither wear and tear nor from accidents, but is based on a car owner’s wish to customise the car such that it functions differently from its original specifications, whether or not the original condition was faulty. For example, there are different qualities of suspension parts that can be put into a car, depending on the owner’s preferences. These parts are almost always generic parts that are tuned to have improved performance over OE or OEM parts.

2.6 Industry supply chain

We have identified five key links in the supply chain, as follows:

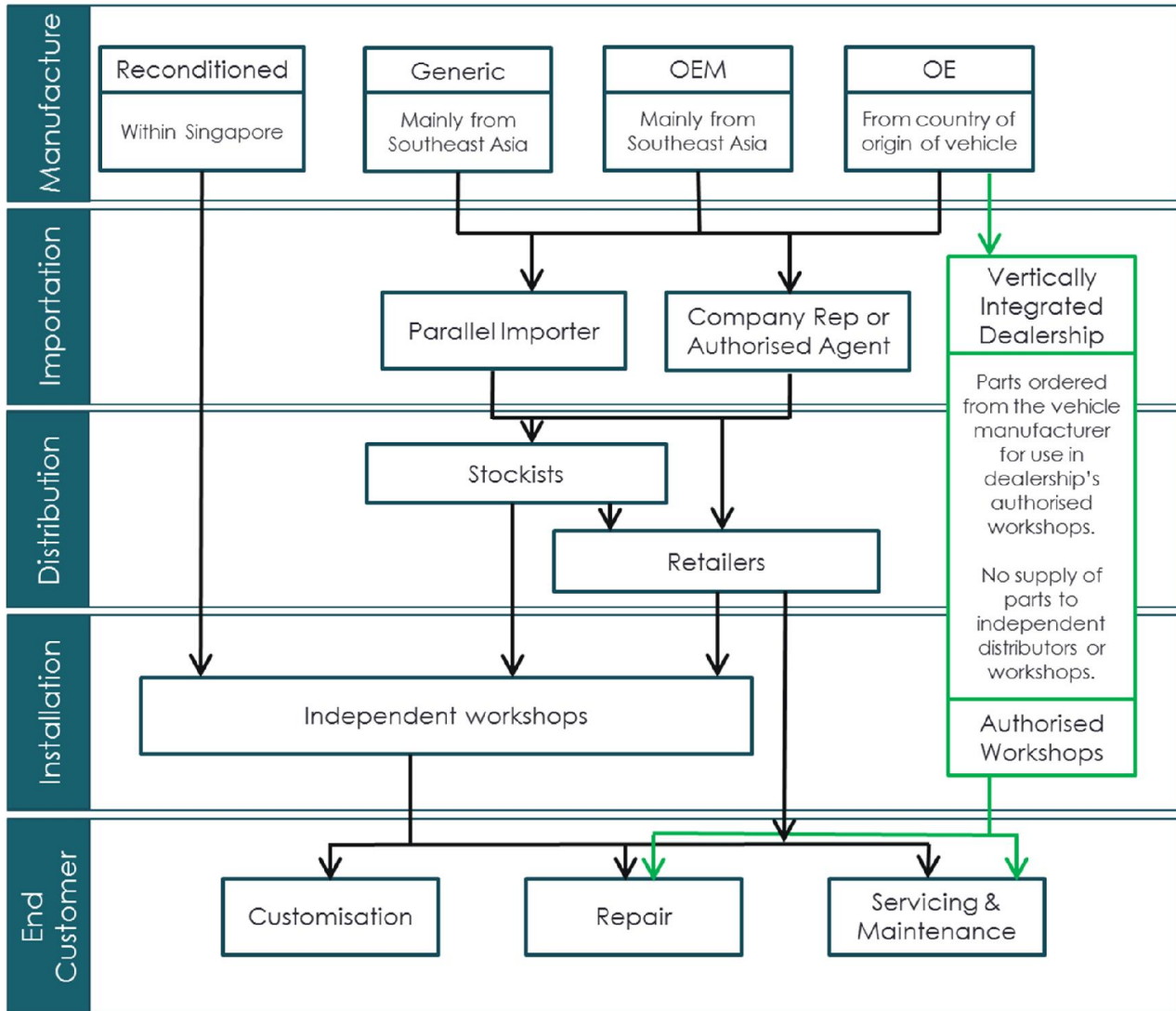
- the manufacture of products – the point in the supply chain at which OE, OEM or generic parts are manufactured or the reconditioned parts are harvested from other vehicles;
- the importation of products into Singapore – once the parts are manufactured, they are imported into Singapore generally through agents who facilitate the transaction between the overseas manufacturer and Singapore-based distribution businesses or through the local subsidiaries of OEMs;
- the distribution of parts within Singapore – once the parts have been brought into Singapore, the distributors purchase these parts for on-sale to workshops. The role of the distributor is to provide a convenient ‘one-stop’ business through which the workshops can source the parts in a timely manner (avoiding the delays and transaction costs associated with purchasing directly from agents who may individually supply only a limited range of parts);
- the combining of parts with mechanic services – the workshops combine the parts with mechanic services to provide a bundled product (of goods and services) that meets the needs of the end customers; and
- the end-customers – car owners, ultimately seeking a working vehicle rather than a spare part.

An overview of the supply chain of automotive parts in Singapore is shown in Figure 7. Further description on the main participants in the supply chain are provided below.

⁵⁶ Interview transcript 4.

⁵⁷ Interview transcript 22.

Figure 7: Supply chain of automotive parts in Singapore



Note: the "Manufacture" level of the supply chain shows the main types of automotive parts used in Singapore, instead of the different manufacturers of automotive parts, and the "End Customer" level of the supply chain shows the different general uses of automotive parts by end customers, instead of the different types of end customers.

2.6.1 Manufacturers

As there is no domestic production of automotive parts, all new automotive parts consumed locally must be imported.

Manufacturers fall into three broad categories:

- vehicle companies that provide OE parts with the respective vehicle brands on them. These companies may outsource the manufacture of some parts to OEMs. Vehicle companies generally provide the full range of parts relevant for their models;
- OEMs that provide OEM parts. The larger OEMs tend to manufacture a broad range of automotive parts, from chassis systems, gasoline systems, starter motors and generators, steering systems to interior modules. The smaller OEMs tend to specialise in the types of automotive parts they produce. For example, lochpe-Maxion (ranked 67th globally) mainly manufactures wheels and structural components,

HBPO (ranked 98th globally) only manufactures front-end modules of cars and Akebono Brakes Industry (ranked 96th globally) mainly manufactures brake pads;⁵⁸ and

- other manufacturers that provide generic parts, some of which are of similar quality to OE and OEM parts but others of which may be of substantially lower quality. The range of parts provided by the generic companies varies, depending on the size and nature of the respective company.

2.6.2 Importers

Because they are not based in Singapore, the manufacturers tend to sell automotive parts into the country through:

- the authorised vehicle dealerships, in the case of the vehicle companies, for OE parts;
- subsidiaries of OE, OEM and generic manufacturers based in Singapore ;
- authorised agents, who may have arrangements with a number of manufacturers (primarily OE and OEM manufacturers) and are usually exclusively appointed by the manufacturer for the sale of parts within a region or set of countries; and/or
- parallel importers, who are not appointed by the manufacturers but still import parts produced by a number of manufacturers (OE, OEM and generic manufacturers).

In addition to selling through the vehicle dealerships, the vehicle manufacturers supply OE parts into Singapore through subsidiaries and/or parallel importers. For example, Daimler has a Regional Logistics Centre in Singapore that supplies OE parts to customers in Singapore and also re-exports the parts to other countries in the region.⁵⁹

Depending on the volume of parts being used in Singapore and whether Singapore is used as a regional hub, OEM manufacturers may have a permanent presence in Singapore, use regional agents who supply into Singapore from other part of the region, use authorised agents and/or supply through parallel importers.⁶⁰ Examples of some of the larger OEMs that have local subsidiaries in Singapore include:

- Continental Automotive Singapore Pte Ltd from Continental AG;⁶¹
- Magna International Pte Ltd from Magna International (which acts as a regional hub);⁶²
- Robert Bosch (SEA), which is also a regional hub and invites workshops to join its Bosch Service Network which gives the workshops direct access to Bosch automotive parts.⁶³ There are currently five Bosch car service workshops in Singapore.⁶⁴

There are also agents that sell only generic parts, some of whom choose to stamp their own brands on parts before on-sale to distributors. Agents of generic parts sell parts for all brands of cars ranging from Japanese cars to continental cars.⁶⁵

It is important to note that importers are more likely to bring in those parts for which demand is sufficiently high to justify holding the stock. As such, it is likely that automotive parts for car brands that are not so

⁵⁸ Top 100 Global Suppliers, the top 100 global OEM parts suppliers ranked by 2012 global OEM parts sales, Automotive News, June 2013.

⁵⁹ Interview transcript 37.

⁶⁰ Interview transcripts 10 and 11; Spire has indicated that they have not been able to obtain details of locally based agents.

⁶¹ http://www.conti-online.com/www/automotive_de_en/general/regions_countries/singapore/

⁶² http://www.magnachem.com.sg/contact_us.html

⁶³ <http://sg.bosch-automotive.com/en/repairs-and-services>

⁶⁴ <http://sg.bosch-automotive.com/en/get-bosch-parts>

⁶⁵ Interview transcript 39.

popular among car owners in Singapore (e.g. certain Chinese cars) have few importers outside of their respective authorised dealers.

Despite the variations in the business models of the importing entities, companies operating at this level of the supply chain carry out the following distinct functions:

- act as an intermediary between the manufacturers, located outside Singapore, and local distributors;
- consolidate orders in order to obtain better prices from the manufacturers;⁶⁶
- consolidate shipments in order to gain economies of scale in transportation costs;
- provide distributors some reassurance regarding the genuine nature of parts;⁶⁷ and
- offer a range of products, which may be sourced from many manufacturers, for distributors' convenience.⁶⁸

Not all of the companies providing these services to local distributors are based in Singapore. For example, some smaller OEMs and generic parts manufacturers sell through representatives that make periodic visits to Singapore, selling directly to the stockists and retailers. In addition, distributors (particularly stockists) reported that it is relatively easy to purchase through similar agents located throughout the region. Respondents mentioned being able to purchase directly through agents located in Taiwan and Dubai, for example.

Some distributors stated that it is not difficult to purchase products directly from the manufacturer⁶⁹ but that doing so may take longer than purchasing through an agent.⁷⁰ Furthermore, self-importing may not be economical for smaller distributors due to economies of scale in transportation costs and discounts offered on bulk purchases. In addition, smaller distributors reported that the 'hassle' of dealing with off-shore manufacturers made this option less attractive. We have therefore interpreted these statements as suggesting that, only when a distributor reaches a certain size, will it become feasible for them to expand into the importation level of the supply chain.

Distributors and, to a lesser extent, independent workshops, also reported the option of ordering parts online, either through import agents or directly from the manufacturer.⁷¹ However, distributors reported that, in general, they prefer not to purchase via the internet as there are significant disadvantages to this approach. For example, online orders take at least a few days to reach Singapore (and can take up to a few weeks),⁷² shipping costs are not spread out if order quantities are small⁷³ and, most importantly, the uncertainty of the quality of parts makes this a risky approach.⁷⁴ The online sales channel appears to be less well developed compared to other countries. For example, anyone (including individual customers) in the USA can buy, with reasonable confidence, OEM parts from websites such as www.oemautopartsandaccessories.com.

2.6.3 Distributors

Once parts have been imported into Singapore, distributors act to consolidate the range of parts in order to provide more of a 'one-stop' shop to workshops. Distributors may choose to purchase parts through a mix of

⁶⁶ Interview transcripts 7, 4 and 23.

⁶⁷ Interview transcript 4.

⁶⁸ Interview transcript 4.

⁶⁹ Interview transcript 21.

⁷⁰ Interview transcript 19.

⁷¹ Interview transcript 11.

⁷² Interview transcript 14.

⁷³ Interview transcript 30.

⁷⁴ Interview transcript 4.

Singapore-based agents, agents based in other countries (often Taiwan, Dubai or Thailand) or their own importation functions.

There are two main types of distributors, namely retailers and stockists. The following table summarises the main differences between these two business models. Additional information is provided below.

Table 7: Comparison of Retailers and Stockists Business Models

Feature	Retailer ⁷⁵	Stockist ⁷⁶
Size	Generally smaller	Generally larger
Storefront	Yes	No
Sales Region	Mainly within the local area or workshop hub	Island-wide
Credit	May offer lines of credit – e.g. 30 days	May offer lines of credit – e.g. 90 days or more ⁷⁷
Delivery	Yes	May deliver only large orders or to 'pick-up' points
Purchase directly from overseas	Less likely but do purchase from manufacturers' representatives visiting Singapore	More likely to compare prices of local and offshore suppliers
Brands	Carry commonly used parts regardless of brands	May carry a smaller range of brands
Parts	Carry commonly used parts, less likely to carry body parts	More likely to carry a wider range of parts
	More likely to carry servicing and maintenance parts, not repair and accident parts	
Supply authorised workshops	No	Occasionally
Generic and OE/OEM parts	Approximately 80% OE/OEM Generics purchased from manufacturers' representatives	Almost entirely OE/OEM parts but do sell generic parts
Sell to end customer	May have up to 50% walk-in customers (although the average is likely to be considerably lower than this figure)	Less likely as a large part of sales is to retailers
Relative prices	Can be higher than stockist prices	

Stockists and retailers are sometimes situated near the workshops, particularly in the Ubi, Sin Ming and Tampines areas, probably for convenience in terms of proximity.

⁷⁵ Interview transcripts 12, 7 and 14.

⁷⁶ Interview transcript 23.

⁷⁷ Interview transcript 18.

Stockists

We estimate there to be around 180 stockists in Singapore (based on information from Spire, sgcarmart.com, car forum websites and yellowpages.com.sg).

Stockists mainly sell genuine parts, but also sell generic parts, depending on consumers' demand preferences.⁷⁸ A representative from a distributor stated that it would be difficult for any distributor in Singapore to survive selling only genuine parts.⁷⁹ Some stockists are of sufficient scale to bypass agents and import from overseas manufacturers directly. For example, JAE Automotive imports directly from Thailand, Malaysia and Australia, depending on the type and size of parts needed.⁸⁰

Stockists may carry automotive parts for multiple brands and generally stock a comprehensive range of automotive parts for each brand. For example, JAE Automotive primarily carries automotive parts for Japanese and Korean cars, while Hup Heng primarily carried automotive parts for continental cars.⁸¹ Very few stockists carry automotive parts for China-made cars as there is very little demand for such parts.⁸²

Stockists supply directly to workshops as well as retailers. Indeed, a large part of the stockists' sales go to retailers as compared to workshops or end customers.⁸³ We understand that in the past, stockists acted more as distinct wholesalers, selling mainly to the retailers who would on-sell to the workshops. However, over time, their role has increased as they have expanded into direct sales to workshops. From the interviews, it now appears to be the case that stockists and retailers compete directly for workshops' business, with stockists offering lower prices in return for volume discounts and lower levels of service (such as delivery and speed of fulfilling the order).

Retailers

We estimate there to be around 300 retailers in Singapore (based on information from sgcarmart.com, car forum websites and yellowpages.com.sg).

By contrast, retailers are generally significantly smaller than stockists and have more direct interaction with end customers and workshop staff. The authorised workshops that are owned by the vertically integrated dealerships do not buy from retailers.

Retailers customise their stock of parts to their customers' requirements and adjust what they carry as demand changes.⁸⁴ Retailers prefer to carry fast moving parts, or parts that are used for servicing and maintenance as these are replaced more regularly and therefore have higher and more predictable turnover.⁸⁵

Like stockists, retailers also carry automotive parts for a variety of brands, especially the more popular brands such as Toyota, Honda, Mercedes Benz and BMW.⁸⁶ Retailers may tend to purchase OE and OEM parts from stockists but reported purchasing generic parts mainly from manufacturers' agents, which are

⁷⁸ Interview transcript 39.

⁷⁹ Interview transcript 39.

⁸⁰ Interview transcript 23.

⁸¹ Interview transcript 14.

⁸² Interview transcript 12.

⁸³ Interview transcript 23.

⁸⁴ Interview transcripts 7 and 12.

⁸⁵ Interview transcript 7.

⁸⁶ Interview transcripts 4 and 7.

often based in Malaysia, Thailand or China. These generic-parts manufacturers send representatives to Singapore to sell directly to retailers.⁸⁷

Different retailers carry different mixes of OEM and generic parts, depending on the needs of their customers. OEM parts are more expensive but are generally agreed to be of better quality and greater reliability. Customers who are less conscious about quality but more sensitive to prices may prefer generic parts over OEM parts. As a result of this difference in target customers, different retailers have different business models with some retailers saying that OEM parts make up 80 per cent⁸⁸ of the automotive parts they carry while others estimating that OEM parts make up 20 per cent of their sales.⁸⁹

Even though very few stockists carry automotive parts for Chinese cars, some retailers have tried to cater to this segment of the market by modifying the fittings of the automotive parts for other car brands such that they are able to fit Chinese cars.⁹⁰

2.6.4 Independent (or third-party) workshops

We estimate there to be around 1,200 independent workshops in Singapore (based on information from Spire, sgcarmart.com, car forum websites and yellowpages.com.sg). We also estimate (based on analysis set out in section 4.2.1) that independent workshops undertake between 45 and 55⁹¹ per cent of work carried out in Singapore (by volume) and a lower proportion by value.

Unlike the authorised workshops, the independent workshops service a wider range of vehicle brands. As a result they generally sell (and install) automotive parts for several brands, especially the common brands such as Toyota, Nissan and Honda.⁹²

Independent workshops can vary significantly in a number of respects. For example:

- in size, with some very large workshops having several large branches while other workshops may be 1 or 2 person small businesses;
- in the range of services that they offer, which depends in part on the size of that workshop and the extent to which it has access to the necessary technical knowledge and equipment (such as the computer-based technology of various vehicle brands),⁹³ and
- in their skill level and expertise, with some workshops stating that their years of experience has resulted in them being more highly skilled than some of the authorised workshops, which may have a higher turnover of staff.

Similar to automotive parts distributors, most independent workshops do not carry automotive parts for Chinese cars, and usually do not work on these cars because such parts are expensive⁹⁴ and difficult to obtain⁹⁵. However, these brands (e.g. Chery, Dongfeng, Foton, Geely) only make up 0.4 per cent of the car population in Singapore⁹⁶ and we note this is a good example of increased costs when there is insufficient scale.

⁸⁷ Interview transcript 12.

⁸⁸ Interview transcript 12.

⁸⁹ Interview transcript 7.

⁹⁰ Interview transcript 25.

⁹¹ See section 4.2.1 for a discussion on this estimation.

⁹² Interview transcript 10 and 13.

⁹³ Interview transcript 18.

⁹⁴ Interview transcript 8.

⁹⁵ Interview transcript 1.

⁹⁶ Source: HoustonKemp analysis of LTA data.

Cars under warranty from vertically integrated dealerships are usually serviced at the authorised workshops, but a small proportion of owners choose to use independent workshops,⁹⁷ especially for minor servicing jobs, as the cost of servicing cars at an independent workshop can be as low as half that at the authorised workshop⁹⁸. However, workshops have noted the trend of car owners opting for fewer services and even fewer major overhauls, which they attribute to the significant increase in COE premiums, reducing the attractiveness of renewing the COE on cars past 10 years old.⁹⁹

The supply of parts to workshops was reported to be very competitive. There are a large number of automotive parts distributors from which workshops can obtain parts,¹⁰⁰ and most distributors (both stockists and retailers) are willing to deal with any workshop, especially if the workshop is able to pay cash (which usually results in a cash discount).¹⁰¹ As such, workshops usually have the luxury of choosing between a number of suppliers.¹⁰² It is also relatively easy for workshops to import automotive parts¹⁰³ from agents that are based overseas, thereby bypassing local distributors. However, some workshops have stated that the small volumes they import means they are generally able to get better prices by purchasing through the local distributors.¹⁰⁴

Independent workshops generally use a mix of OE, OEM, generic and second hand automotive parts. Depending on the target customer base of the different workshops, some choose to use more OEM parts in a (80:20 mix),¹⁰⁵ focusing on customers' preference for quality and reliability, while others choose to use more generic parts (in a 20:80 mix),¹⁰⁶ focusing on customers' preference for the lowest price. There are significant price differences between OEM and generic parts. For example, depending on the workshop's mark up and the type of automotive part involved, OEM parts can range from being 30 per cent¹⁰⁷ more expensive to being two to three times more expensive than generic parts.¹⁰⁸

Workshops are usually able to get automotive parts from retailers at a lower price than walk-in customers, but usually charge their own mark ups of around 10 – 20 per cent¹⁰⁹ on the parts before selling them to end customers.

Some workshops provide warranties on the automotive parts they install in customers' cars, and this can differ between workshops as well as the type of automotive parts (e.g. 1 year for suspension part, 2 years for engine part) installed.¹¹⁰ However, not all workshops offer warranties¹¹¹ and workshops stated that they would be less willing to offer warranties on generic parts. Despite this, very price conscious customers will still prefer to use generic parts.

2.6.5 The vertically integrated dealerships

The most influential industry players in Singapore appear to be the large, vertically integrated dealerships that are the authorised car dealers, particularly for those vehicle brands with significant shares of sales. Each

⁹⁷ The amount of work carried out on cars under warranty can range from between 20 – 30 and 50 per cent of all the cars they work on. Interview transcripts 13 and 11.

⁹⁸ Interview transcript 1.

⁹⁹ Interview transcript 8.

¹⁰⁰ Interview transcript 8.

¹⁰¹ Interview transcript 1.

¹⁰² Interview transcripts 14 and 24.

¹⁰³ Interview transcripts 10 and 11.

¹⁰⁴ Interview transcript 10.

¹⁰⁵ Interview transcript 1.

¹⁰⁶ Interview transcript 11.

¹⁰⁷ Interview transcript 18.

¹⁰⁸ Interview transcript 1.

¹⁰⁹ Interview transcripts 18 and 20.

¹¹⁰ Interview transcripts 1 and 11.

¹¹¹ Interview transcript 8.

car dealer owns and operates its own authorised workshops, with the entire vertically integrated dealership generally undertaking at least the following roles in-house:

- the sale of vehicles;
- the procurement of parts from the vehicle manufacturers for use by the authorised workshops; and
- the repair and maintenance of vehicles through the authorised workshops.

These companies are appointed by the car manufacturer to distribute its cars and parts in Singapore. The following table provides information about the ownership arrangements for the authorised dealers for the top six brands in Singapore, indicating that these firms are not subsidiaries of the motor vehicle manufacturers.

Table 8: Information on major authorised dealers in Singapore

Top 6 brands	Authorised dealer/Service Centre	Ownership	Number of authorised workshops
Toyota	Borneo Motors	Part of Inchcape Group of UK	4
Honda	Kah Motor	Member of Oriental Holdings Berhad	7
Nissan	Tan Chong Motors	Subsidiary of Tan Chong International Limited	5
Mercedes Benz	Cycle & Carriage	Member of Jardine Cycle & Carriage	3
Hyundai	Komoco Motors	Wholly owned local firm	1
BMW	Performance Motors Limited	Part of Sime Darby Motors Group	3

Sources: websites of authorised dealers and respective interview transcripts with authorised service centres.

The vertically integrated dealerships use OE parts for the vast majority of their service and repair work.¹¹² The exception to this is that, from time to time, these dealerships may run out of a part due to the long lead time between orders, in which case the authorised workshop will source the relevant part from a Singapore-based stockist (and may use an OEM rather than OE part).¹¹³

These companies generally do not supply parts to independent workshops or directly to end-customers.¹¹⁴ The purpose of their parts distribution business is to source parts for use by their workshop. For example, Borneo Motors has a Central Parts Depot in Singapore, importing automotive parts directly from Japan and distributing the parts to Toyota and Lexus service centres in Singapore.¹¹⁵ However, as noted above, OE parts are supplied into Singapore through a number of other entities, the precise nature of which depends on the relative size of the Singapore market for the respective brand.

¹¹² Interview transcripts 16 and 22.

¹¹³ Interview transcripts 5, 7 and 21.

¹¹⁴ Interview transcript 39.

¹¹⁵ <http://www.borneomotors.com.sg/en/parts/index.html>

Smaller authorised dealers, like those for [redacted] and [redacted] cars, may choose to authorise third-party service centres for the purpose of maintaining warranty provisions, in which case the dealer generally adds a significant mark-up to the price charged by the workshops when passing the cost on to the car owner.¹¹⁶

Authorised workshops have varying policies regarding the servicing or repairing of parallel imported cars of the same brand. Komoco Motors (Hyundai) does not discriminate against parallel imported cars and charges the same rates for both cars sold by them and parallel imported cars. Similarly, Tan Chong Motors charges the same servicing rates to both cars sold by them and parallel imported cars, but impose additional charges on parallel imported cars for repair works, depending on the car model.¹¹⁷

At the other extreme, Performance Motors and Cycle & Carriage impose very high fees when doing work on parallel imported cars. For example, Cycle & Carriage imposes a one-time 'registration fee' on parallel imported cars before they are approved to be worked on in the authorised workshops but no additional surcharge on actual fees. Parallel imported BMW cars owners who want their cars serviced or repaired at Performance Motors must incur a substantial non-refundable registration fee (e.g. \$30,000 for a 5 series sedan) and a further 25 per cent surcharge on servicing or repair costs.¹¹⁸

2.6.6 Automotive insurance companies

While not directly involved in the supply chain of automotive parts in Singapore, automotive insurance companies can affect consumers' use of automotive parts. Examples of major automotive insurance companies in Singapore include AXA Insurance, NTUC Income and Tokio Marine Insurance. As a guide introduced by General Insurance Association of Singapore, motorists involved in car accidents are encouraged to follow the Motor Claims Framework (MCF), which provides advice on the exchanging of particulars with other car owners involved in the accident, taking photographs of the damage caused, calling the insurance company for a tow truck and reporting and bringing the accident vehicle to the approved workshops within 24 hours or by the next working day.¹¹⁹

It is compulsory for every car in Singapore to be covered by motor insurance and there are three types available:

- comprehensive – covers claims made by the car owner against his own policy as well as other car owners claiming against his policy, in instances where the accident was determined to be the fault of the policy holder;
- third party – only covers damage to property belonging to other persons such as cars, fences, street lighting etc. It does not cover the policy holder's own claims for damages to his own vehicle; and
- third party, fire and theft – essentially the same as third party coverage, but has accidental loss or damage by fire and/or theft of the vehicle in addition to what is covered in the third party coverage.

Insurance companies use several tactics to control the quality and price of the parts and services they purchase on behalf of their clients (i.e., the vehicle owners). For example, insurance companies:

- typically have a list of approved workshops that clients may choose from, although there are a few companies that allow car owners to go to any workshop they choose (which usually means car owners pay a higher premium);¹²⁰
- typically use vehicle surveyors and assessors, either independent or employed by them, to contain both the scope and price of work undertaken under the insurance claims;¹²¹

¹¹⁶ Interview transcript 1.

¹¹⁷ Additional information requested from authorised dealers.

¹¹⁸ Additional information requested from authorised dealers.

¹¹⁹ Your guide to Motor Claims Framework, GIA.

¹²⁰ The basis on which workshops are selected by the insurance companies was not covered as part of the scope of this market study.

¹²¹ Interview transcripts 29 and 38.

- typically use the price lists of parts provided by the authorised workshops as the basis of the claim caps they allow; and
- may limit the use of the authorised workshops to clients willing to pay a higher premium or a co-payment in order to have this choice.

3. The Relevant Markets

3.1 Overview of Approach

Defining the relevant markets is a critical preliminary step in assessing the degree of competition within an industry. The market definition identifies those substitute goods and services that constrain the behaviour of the industry participants and assists in determining whether any party has the ability and incentive to abuse market power to the detriment of consumers.

The relevant market can be defined as the functional, product and geographic space in which rivalry and competition takes place, and includes goods or services that are suitable for, or otherwise competitive with, the goods or services under analysis. Accordingly, substitution is key to market definition.¹²²

Our market definition analysis relies mainly on the qualitative information procured through the market research exercise. Our qualitative assessment is undertaken within a Hypothetical Monopolist Test framework in the following sense: we have identified market boundaries with regard to the likelihood of a hypothetical increase in prices eliciting responses from suppliers and consumers that negate the profitability of such price increases.¹²³

For the purposes at hand, we consider the market definition by reference to three market dimensions:

- the functional level of the supply chain;
- the product; and
- geography.

The remainder of this section considers each of these market aspects in turn.

3.2 Functional level of the supply chain

The structure of the automotive parts industry in Singapore can be characterised as per Figure 1 above. In assessing whether there are distinct markets within each of these stages of the supply chain, we have considered:

- the extent of competition occurring between the different stages of the supply chain. In other words, for example, to what extent do direct importers/agents compete with stockists to provide automotive parts to the workshops;
- whether there are narrower markets within each stage of the supply chain. This is particularly relevant for the distribution segment, where we have considered whether retailers and stockists operate in the same or separate markets; and
- whether vertically integrated vehicle dealerships should be included within the same markets as the independent distributors and workshops.

We consider each of these questions in turn below.

3.2.1 Are the different stages of the supply chain in separate markets?

The industry is characterised by a relatively high degree of vertical integration even outside the vertically integrated dealership networks. For example, stockists can also be importers and act as agents to other stockists and retailers. Stockists may also share common ownership with independent workshops.

¹²² Paragraph 2.1, CCS Guidelines on Market Definition.

¹²³ Paragraphs 3.2 – 3.9, CCS Guidelines on Market Definition.

Furthermore, even when players are not vertically integrated, downstream players can easily by-pass upstream suppliers (i.e. procure parts directly from their suppliers' sources) if price differences at different stages of the supply chain become excessive.

Despite this, there appear to be at least three distinct points in the supply chain at which automotive parts are traded in Singapore. Although the vertical links throughout the industry result in players potentially operating at more than one level of the supply chain, this is not sufficient to conclude that there is a single market operating. While prices at each point in the supply chain provide some constraint on downstream prices, there is value-added occurring at each stage:

- importers and agents facilitate the movement of products into Singapore, liaising with factories and consolidating orders to achieve volume discounts and economies of scale in transportation costs as well as improve bargaining power against overseas manufacturers;
- distributors (retailers and stockists) do not change the nature of the parts but provide a one-stop shop for workshops and customers to purchase a wide range of products. They also collate stock to allow workshops to obtain parts at short notice as requirements arise (compared to the alternative of importing products directly or having to contact the agent for every requirement of automotive parts); and
- workshops combine the parts with mechanic services to meet the requirements of the end customer, who is generally seeking a functional vehicle rather than simply the automotive part.

For this reason, we have defined separate relevant markets at each of these functional levels, namely:

- markets in which parts are sold for the purpose of resale 'as is' (the "importation markets");
- markets in which parts are sold for the purpose of being bundled with mechanic services and resold (the "distribution markets"); and
- markets in which end-customers purchase automotive parts, in conjunction with mechanic services (the "installation markets").

Note that we have not undertaken an assessment of the competitive nature of the parts manufacturing business, which would be a significant undertaking in its own right and is considered to be outside the scope of a review of Singapore's automotive parts industry. However, where the manufacturing supply conditions have been seen to impact the competitive nature of markets in Singapore, this has been taken into account in our analysis.

3.2.2 Are there separate (functional) markets within any identified stage in the supply chain?

The stage of the supply chain that is most likely to contain more than one functional market is the distribution level, in which retailers and stockists operate. For example, it could be argued that stockists and retailers operate within different levels of the supply chain if stockists supply predominantly to retailers who then on-sell to workshops. As described in section 2.6.3, retailers and stockists employ fundamentally different business models. Stockists may carry a more extensive range of automotive parts from fewer brands while retailers are more likely to carry a selected range of automotive parts that cater more to the demand patterns of workshops located in their vicinity.

However, our assessment is that, although retailers and stockists utilise distinct business models and retailers may source a significant amount of their parts through stockists, they ultimately operate within a single market as:

- neither stockists nor retailers fundamentally alter the nature of the product purchased from the importers;
- both sell to workshops – workshops reported comparing the prices across retailers and stockists prior to making a purchase (we understand this may not always have been the case but that stockists are increasingly targeting sales direct to workshops on the grounds of their price competitiveness vis-à-vis retailers);
- both are able to purchase from agents and reported similar approaches of sourcing from a number of suppliers, within Singapore and regionally, to secure the best prices;

- the prices of retailers will ultimately be constrained by the prices offered by stockists, despite the fact that they may be able to charge a premium given the convenience and concierge services they offer, such that the price premium charged by retailers cannot exceed the value of convenience they offer; and
- the prices of stockists will similarly be constrained by the prices offered by retailers.

The differences in business models, proportion of types of customers that stockists and retailers sell parts to and the fact that retailers actually purchase parts from stockists are insufficient to define them in separate functional markets. We therefore conclude that the level of competition between the retailers and stockists is such that they can usefully be defined as being within a single market.

Having said that, had we defined stockists and retailers to operate in separate markets, it is unlikely our competition analysis would have been significantly affected. In particular, any such competition analysis would have needed to take proper account of the significant inter-market competition (competition between the stockists and retailers). As a result, the end conclusions reached would be unchanged.

3.2.3 Are the vertically integrated dealerships part of the same markets?

Competition between the vertically integrated dealerships and the independent players is limited by a number of features of the industry, specifically:

- the dealerships purchase automotive parts directly from their relevant vehicle manufacturers for use by their authorised workshops – they do not supply into the importation and distribution markets in this industry;
- in order to maintain their warranty, owners of relatively new cars are effectively locked-in to the use of the authorised workshops and automotive parts supplied by the vertically integrated dealerships.

It is therefore reasonable to ask whether the vertically integrated dealerships operate within the same market as the independent firms in the respective levels of the supply chain.

As noted above, the purchasing and distribution units within the vertically integrated dealerships operate to supply parts only to the authorised workshops. They do not supply parts to competing distributors or independent workshops. On this basis, it could be argued that they should be excluded from the competition assessment for these markets.

However, the lack of competition between the vertically integrated dealerships and the other firms in the upstream markets (e.g. import and distribution markets) is a construct of the dealerships' policies of only obtaining their supply of parts from the vehicle manufacturer and not selling any of these OE parts to other players in their respective markets. In the absence of these company-imposed policies, the import and distribution functions of the vertically integrated dealerships would very likely compete with the other players in the markets.

The main way in which their presence enters the competition assessment is through the inclusion of the volumes of throughput in the market share information. For the purpose of this study we have chosen to include their throughput in the market share estimates, as this provides a useful picture of the volumes that may be affected by the observed conduct of the vertically integrated dealerships.

With regard to the installation market, despite the factors that limit competition between the authorised and independent workshops, we have defined these to be within the same markets. Our reason for doing so is that the observed lack of competition is largely a construct of the exclusive arrangements instituted by the vertically integrated dealerships, specifically:

- the restrictions set out in the warranty terms and conditions;
- the limitation of authorisation to workshops owned and operated by the vertically integrated dealerships; and
- the difficulties independent workshops have in accessing certain diagnostic tools, systems and knowledge.

In terms of the technical substitutability of the majority of work undertaken at the authorised workshops, this could be done to an equally high standard using similar quality parts at a number of independent workshops. To the extent that independent workshops are unable to provide the full range of services provided by the authorised workshops, this may (directly or indirectly) reflect conduct by the vehicle manufacturers.

Furthermore, there is some evidence that car owners who are particularly price sensitive are willing to risk their warranties in order to have servicing, maintenance and repair work carried out by the cheaper independent workshops, even when their cars are still covered by warranty.

Similar to the importation and distribution markets, the lack of more intense competition between the authorised workshop and the independent workshops results from the lock-in effects of warranty conditions offered by the car manufacturers and vertically integrated dealerships and in the absence of which, remain as viable substitutes to one another.

3.3 The product

The boundaries of the product market can be determined with respect to the vehicle brand for which the part is designed and the part itself.

3.3.1 Automotive parts brands

There are two main questions that must be addressed in considering inter-brand competition:

- whether the parts designed for each vehicle brand are within a distinct set of markets (i.e. function markets); and
- whether OE, OEM, generic and reconditioned parts are within the same markets.

In general, it is simply infeasible to substitute automotive parts manufactured for one car brand for those manufactured for a different brand. With few exceptions, automotive parts are designed in such a way as to be specific to the brand, and in some cases the model, of the car.¹²⁴ As far as consumers are concerned, automotive parts manufactured for different vehicle brands are not substitutes for one another and if the price of, for instance, BMW parts increases this will not result in a switch towards Hyundai parts, for the simple reason that the parts would not fit in BMW cars.

On the supply-side, a relative increase in the price of parts for a particular brand may increase the willingness of importers, distributors and workshops to supply that brand rather than other brands, potentially resulting in increased competition and ultimately constraining prices. At the import and distribution levels, if for example the price of BMW parts increased by 10 per cent, other distributors not currently selling BMW parts may be encouraged to start supplying these parts, which would ultimately constrain the price BMW parts distributors could charge. The strength of this effect would depend upon the ease with which distributors are able to get contacts for the supply of BMW parts.

Although the potential for supply-side substitution would seem to be significant it is not strong enough for us to definitively conclude that all brands should be treated as being within a single market. Therefore, at this point, we have defined separate markets for automotive parts manufactured for different brands. This is consistent with the definition of markets in the EU, for example, the EU Guidelines on the Motor Vehicle Block Exemption state:

*The brand-specific nature of the markets for repair and maintenance services and for spare parts distribution means that competition on these markets is inherently less intense compared to that on the market for the sale of new motor vehicles.*¹²⁵

¹²⁴ Interview transcript 25.

¹²⁵ Paragraph 15, Supplementary guidelines on vertical restraints in agreements for the sale and repair of motor vehicles and for the distribution of spare parts for motor vehicles, European Commission.

In section 2.4 we introduced the four main categories of automotive parts used in Singapore:

- OE parts that are genuine, come in packaging marked with the car manufacturer's brand and sold to the car manufacturer for on-sale;
- OEM parts that are also genuine but sold directly by the manufacturer to agents or distributors rather than to or through the car manufacturer and do not bear the car manufacturer's brand;
- generic parts produced by other manufacturers, which are essentially copies of the genuine parts and may be of similar or lower quality; and
- reconditioned or second-hand parts.

OE and OEM automotive parts are essentially manufactured by the same OEMs; the only material difference lies in whether the respective parts bear the brands of the car manufacturers. As described earlier, it is very likely that OE parts are manufactured in factories located in Asian countries like Thailand and Malaysia and then exported back to car manufacturers located in Japan and Europe.

However, customers may have a perception that OE parts purchased from the vertically integrated dealerships and authorised workshops and imported directly from car manufacturers in Japan or Europe may be of a higher quality than OEM parts purchased from third party distributors that sourced the parts, for example, from Thailand. The prices of OE parts are usually higher than OEM parts and this may be so for (at least) two reasons:

- OE automotive parts sold by the vertically integrated dealership may be deemed to be of a superior quality (quality assurance) or come with better after service care packages as compared to those sold by automotive parts distributors;¹²⁶ and/or
- other than quality reasons, OE parts may not face the same level of competition as OEM parts, especially when cars are under warranty from the vertically integrated dealership.

Despite this difference it is relatively clear that the two types of parts provide good functional substitutes for one another. For this reason, we have treated them as being within a single market. This is consistent with the approach taken in the EU. For example:¹²⁷

On the spare parts markets, parts bearing the vehicle manufacturer's brand face competition from those supplied by the original equipment suppliers. This maintains price pressure on those markets, which in turn keeps pressure on prices on the repair markets, since spare parts make up a large percentage of the cost of the average repair.

On the other hand, generic parts may vary in quality and not all parts can be copied effectively, due to patents and technological constraints. For example, engine parts¹²⁸, headlights and brakes¹²⁹ may be less likely to be copied by generic manufacturers than less complex products, such as wiper blades, filters and air-conditioning units. For example, the following types of parts are less likely to be suitable for generic substitutes:

- engine parts;
- computer-related parts; and
- some body parts.

¹²⁶ Interview transcript 33.

¹²⁷ Paragraph 15, Supplementary guidelines on vertical restraints in agreements for the sale and repair of motor vehicles and for the distribution of spare parts for motor vehicles, European Commission.

¹²⁸ Interview transcripts 24 and 1.

¹²⁹ Interview transcript 1.

On the other hand, we understand that the following types of parts are more likely to have readily substitutable generic counterparts:

- filters, spark plugs, wiper blades, bulbs, and other small, non-technical parts;
- air conditioners; and
- suspension systems.

The extent of substitutability between the genuine and generic parts will also depend on the perceived quality differences adjusted by the price premiums genuine parts have over generic parts. It is reasonable to conjecture that a small but significant increase in the price of genuine automotive parts would be likely to result in consumers being more willing to substitute generic parts for genuine ones (in suitable applications). This is especially so for customers that are more price sensitive and more willing to substitute generic parts for genuine OE or OEM parts, especially if their cars are no longer under warranty from the vertically integrated dealerships. Workshops and automotive parts retailers know of this substitution pattern and have said that they tend to offer customers a choice between the generic and genuine options.¹³⁰

Reconditioned parts are very rarely used in Singapore due to high vehicle turnover and high price of cars.¹³¹ These are used parts that have been salvaged by workshops or parts dealers and are sometimes used as substitutes for new parts, especially for accident repairs¹³² or when cars are almost nearing 10 years old and the car owner does not intend to renew the COE on the car. Suppliers of these reconditioned parts target the most price sensitive group of customers or repairs for which car owners have little say in the quality of parts used (such as insurance-covered repairs). However, such parts do provide a viable substitute to the other types of parts and are therefore defined to be within the same markets.

In summary, we have defined separate product markets for automotive parts manufactured for each car brand, where these individual markets include all compatible parts whether they are OE, OEM, generic or reconditioned parts.

This distinction applies at all levels of the supply chain, such that there will be a number of brand-defined markets at each of the importation/wholesale, distribution and workshop levels of the supply chain. However, in practice, we have generally considered all brands together, noting observed distinctions in competitive conditions between the brands rather than providing separate analysis for each brand within each functional (and parts) market.

3.3.2 The automotive part

There is virtually no option for customers to substitute one specific part made for one function for another, much less one category of parts for another, in response to a relative price shift. For the most part, if the price of one part increases relative to another part, consumers will not be able to respond by shifting to purchase another part. Similar to the situation for substitutability between automotive parts manufactured for different car brands, supply-side substitutability may help to constrain the ability of prices for certain parts to be increased relative to other parts, depending on the nature of supply at each level of the supply chain. Nevertheless, we do not find that supply-side substitution is sufficient to conclude all parts would be in the same market.

However, a market definition that separates each part into a distinct market appears unlikely to be useful for the CCS's task at hand. Furthermore, the sheer number of parts combined with the nature of the information gathered through the surveys and dearth of publicly available pre-existing industry information means that a competitive assessment for each part produced for each brand would be infeasible. We have therefore taken

¹³⁰ Interview transcripts 1, 7, 11 and 12.

¹³¹ Singapore: Automobiles and Vehicle Parts & Accessories, Haw Cheng Ng, U.S. Commercial Service Department of Commerce, November 2010.

¹³² Interview transcript 1.

a purposive approach to defining the markets, which segregates the market according to the demand and supply conditions that prevail.

The nature of supply and demand for various automotive parts is highly related to the use to which that part is generally put. These general uses of automotive parts are:

- servicing and maintenance;
- repairs; and
- customisation.

The competitive conditions at the various levels of the supply chain appear to be more closely related to the turnover of the parts and the predictability of their demand rather than the nature of the part itself. In other words, there are likely to be more suppliers and greater competition for commonly-used servicing parts. However, parts that are replaced infrequently or relate to obscure or rare car types are less likely to be supplied by a high proportion of distributors and retailers and therefore subject to less competition.

This distinction according to usage is consistent with the way in which the vertically integrated dealerships organise their parts supply system. For example, the Nissan representative stated that its automotive parts business is segregated in accident and servicing parts.¹³³ (Note that the authorised workshops generally do not customise vehicles.) We have also observed the large independent workshops establishing separate repair and maintenance centres.¹³⁴

At the workshop level, this categorisation is especially appropriate because of:

- differences in the decision maker:
 - > customers bringing vehicles in for servicing and maintenance are more likely to be concerned about convenience and the competitiveness of the service package offered by the workshop;
 - > the purchase parameters for accident-related repairs are largely dictated by insurance companies, which rely on experts such as assessors to inform decisions; and
 - > customers wishing to customise their cars are more likely to know what they wish to have done and be less concerned with delays in obtaining parts;
- differences in the workshops supplying these services:
 - > although large workshops might provide all types of services, many workshops specialise; and
- the range of parts used in these applications varies – accident repairs may require many parts and it is difficult for workshops to identify the parts that may be required within a given week or so. In contrast, servicing is much more predictable with the changing of the filters and sparkplugs being the most often cited common parts.¹³⁵

The information we have generated to date indicates different competitive conditions for the parts according to usage and brand, as described above. The interviews and other available information do not suggest that certain parts within these categories are subject to particularly unique competitive conditions, although such a situation cannot be categorically ruled out.

3.4 Geography

The geographic market boundaries we have identified vary, depending on the functional level of the market.

¹³³ Interview transcript 5.

¹³⁴ <http://riverviewauto.com.sg/>

¹³⁵ Interview transcript 5.

3.4.1 Importation markets

As there is no domestic manufacture of automotive parts, all parts are imported and these parts can be sourced from neighbouring countries such as Malaysia and Thailand, or from as far away as Japan, Korea or Europe.

Distributors reported being able to purchase from agents and parallel importers located in other countries within the region, most particularly Taiwan, Dubai and Thailand. Most distributors, particularly stockists, noted that they contacted a number of agents, both in Singapore and outside Singapore, before making a purchase decision.

Furthermore, we understand that many agents from which distributors purchase do not have a permanent presence in Singapore. Singapore's convenient location and efficient transportation linkages allow agents based in nearby countries to efficiently serve Singaporean distributors.

We do not define the market globally, even though the manufacturers may be located outside the region. This is based on our understanding that the majority of manufacturers will have appointed agents within the region that facilitate the transactions between manufacturers and distributors. Therefore, distributors are more likely to compare prices across agents located within the SEA region.

On the basis of this information we have concluded that local agents compete almost directly with agents located outside Singapore but within the SEA region and have defined the market as regional.

3.4.2 Distribution markets

It is unlikely that the geographic market for sale to workshops is wider than Singapore. Although workshops reported that they are able to purchase directly from agents, for the majority of parts they prefer to go through stockists and retailers located within Singapore. The reasons cited for this was the need to have parts quickly and the convenience of purchasing through these distributors.

We note that retailers are more likely to target workshops within their 'hub' location. Despite this tendency, we have defined the distribution markets as Singapore-wide due to the observed competition between the retailers and stockists and the fact that stockists tend to supply Island-wide. Stockists, by nature, tend to supply out of a warehouse and in bulk lots, suggesting that proximity to workshops is less relevant than price for these firms. On the supply-side, it seems unlikely that a theoretical monopoly retailer or stockist could increase prices within a region in Singapore without eliciting a strong supply response from stockists and retailers (albeit possibly to a lesser extent than stockists) located in other parts of Singapore.

3.4.3 Installation markets

We have defined the markets within which end-customers purchase parts as being limited to Singapore. Although car owners may have the alternative to take their vehicles to nearby parts of Malaysia, in practice this seems unlikely to be a preferred alternative such that the prices offered by Malaysian workshops are unlikely to realistically exert a competitive constraint on the prices in Singapore.

Singapore's small size and proximity of car workshops to one another makes it unlikely that workshops in a given region of Singapore could sustainably price above workshops in other parts of the country. While there are hubs around which workshops and automotive parts retailers tend to be situated (e.g. Ubi and Sin Ming, most likely due to locational efficiencies), the relatively short distance between the automotive hubs make it unlikely that any hub would be able to consistently sustain higher prices. For example, if parts make up 50% of bill, a 10% increase in cost of parts may result in a 5% increase in total price. If a servicing package costs around \$200 this amounts to a \$10 increase, which may be sufficient for car owners to travel at least 15-20 minutes further away.¹³⁶

¹³⁶ Note that this is an example provided by HoustonKemp.

Having said that, workshops in some areas may justify slightly higher prices if there are associated locational benefits to consumers, such as ease of linkages to public transport for the vehicle’s down time. Such pricing differences do not necessarily indicate that workshops in regions across Singapore do not compete with one another.

3.5 Conclusion

The following table summarises the relevant markets that have been identified in this industry.

Table 9: Summary of identified markets

Functional level	Product		Geography
	Branding	Parts	
Importation markets	Disaggregated by the vehicle brand for which the part is manufactured but inclusive of all OE, OEM, generic or second-hand parts	Disaggregated by main use <ul style="list-style-type: none"> • servicing and maintenance • repairs • customisation 	Southeast Asia
Distribution markets			Singapore
Installation markets			Singapore

For practical purposes, the remainder of this report and our competition analysis is structured according to the functional level of the markets. Although separate markets have been identified for each brand, the supply and demand conditions within each brand are largely consistent with one another. Rather than present distinct analysis for each brand we have presented a unified analysis and noted differences between the brands as they arise. We have taken a similar approach with the disaggregation of markets into the different uses of automotive parts, with the exception of the downstream market to end users, at which point the supply and demand conditions for the parts vary more significantly by usage.

4. Competition Analysis: Importation Markets

4.1 Description of the markets and theories of harm

As described in section 3, the markets at this level of the supply chain have been defined as:

- markets in which automotive parts are purchased for the purpose of on-sale to workshops;
- the buyers are the distribution companies;
- the sellers may be:
 - > the parts manufacturers themselves,¹³⁷ generally through representative agents or directly to the authorised vehicle dealerships;
 - > authorised agents, who are not linked to the parts manufacturers through ownership arrangements but have contractual arrangements with them; or
 - > parallel importers; and
- separate markets have been defined on the basis of:
 - > the vehicle brand the parts are produced for;
 - > the main use for specific parts (i.e. servicing and maintenance; repair; or customisation).

Companies supplying into this market may also import products into Singapore for the purpose of selling not only to Singaporean firms but also re-exporting throughout the region, for example;¹³⁸

- Gallop Automotive Pte Ltd – which describes itself as having built a strong rapport with leading manufacturers and being an active wholesaler in Singapore and Asia supplying genuine, OEM and replacement parts.¹³⁹

While large stockists¹⁴⁰ and even large workshops are able to bypass agents and import directly from the manufacturers, there are a clear set of tasks and roles being carried out by importers and agents at this point in the supply chain, including that they:

- consolidate orders in order to obtain better prices from the manufacturers;¹⁴¹
- consolidate shipments in order to gain economies of scale in transportation costs;
- act as an intermediary between the manufacturers, located outside Singapore, and local distributors;
- provide distributors some reassurance regarding the genuine nature of parts;¹⁴² and
- offer a range of products, which may be sourced from many manufacturers, for distributors' convenience.¹⁴³

The theories of harm we were testing for in these markets include the risk that the importers, individually or jointly, have market power and are abusing that power to the detriment of consumers by:

- foreclosing supply to competitors through exclusive relationships with manufacturers;

¹³⁷ Interview transcript 4.

¹³⁸ Interview transcript 25. For example, Tye Soon describes itself as “the most prominent independent automotive parts distributor in Southeast Asia” on its website - <http://tyesoon.com/>

¹³⁹ <http://gallopauto.com/>

¹⁴⁰ Interview transcript 24.

¹⁴¹ Interview transcripts 7, 4 and 23.

¹⁴² Interview transcript 4.

¹⁴³ Interview transcript 4.

- foreclosing demand to competitors through exclusive relationships with customers (distributors);
- engaging in resale price maintenance arrangements; or
- engaging in collusion or tacit coordination.

In testing these theories of harm, we have considered the following questions:

- are the market conditions such that a single agent, or group of agents, is likely to have significant market power?
- if so, is there any evidence of abuse of that market power? and
- if so, are the effects of that abuse likely to be significant in the relevant markets?

We have not considered the legality of conduct with strict adherence to the Singapore Competition Act. Rather, we are under instruction from the CCS that the purpose of this study should be to gather information about the industry and to provide an overarching view of practices and market conditions in this industry, rather than to strictly adhere to what is or is not permissible under the Competition Act.

4.2 Market conditions

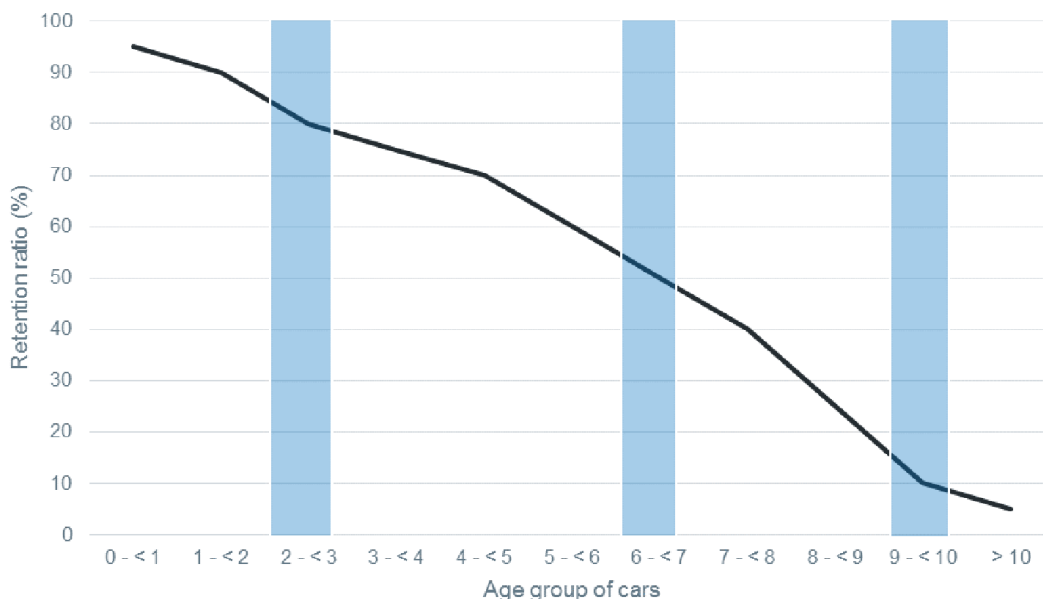
4.2.1 Market concentration

The main suppliers of parts into Singapore for each vehicle brand are the vehicle manufacturers, who supply OE parts directly to the relevant authorised vehicle dealership as well as through their regional sales arms.

We have estimated the share of sales going directly to the vehicle dealerships by reference to the proportion of workshop sales undertaken at the authorised versus independent workshops. This approach is considered reasonable as all of the authorised workshop servicing, maintenance and repair work is undertaken using the parts purchased by its parent company from the vehicle manufacturer. We understand that these companies do not undertake customisation work, therefore this estimate will only apply to the parts purchased for the purpose of servicing and maintenance and repair.

We estimated the market share on the basis of the percentage of cars taken to the authorised workshops in each year of a vehicles life, given warranty arrangements and attrition estimates. We then combined this with the information regarding the age of cars in Singapore to obtain a weighted average figure of proportion of cars serviced by these authorised workshops. Using relatively conservative estimates, and not taking account of the price difference between the authorised and independent workshops, we have estimated that the authorised workshops undertake at least 45 per cent of servicing and maintenance jobs.

Figure 8: Retention ratio of authorised workshops



Source: Transcript 30, Industry expert at provided his opinion on the retention ratio of authorised workshops in years 3, 7 and 10 (marked in blue columns). We have extrapolated the information and gotten an estimate of the retention ratio over 10 years, given the assumption that newer cars (especially those under warranty) are more likely to go back to authorised workshops.

The proportion of work undertaken at authorised workshops is likely to be significantly higher than this for the continental cars that require more high-tech diagnostic tools, equipment and know-how. We therefore estimate that this figure may be around 55 per cent for vehicle brands such as Mercedes Benz, BMW, Audi and the like. Vertically integrated dealerships of uncommon car brands would also have higher than average market shares, as it is simply not possible for independent workshops to obtain automotive parts for those cars.

Furthermore, the cost of services and parts at the vertically integrated dealerships is reportedly considerably higher than at the independent workshops. It is therefore likely that the market shares by value will be significantly higher than this estimate.

Our market share estimate is broadly consistent with statements made during the market survey. For instance, we note one industry expert’s estimate that the authorised workshops undertake approximately 70% of workshop jobs in Singapore.¹⁴⁴ We believe that this represents an estimate of market shares when measured by value of work done, and is in line with the estimate we have derived as authorised workshops are likely to undertake higher value work and also charge higher prices for the same types of work.

Outside the vertically integrated dealership, there are numerous representative agents, authorised agents and parallel importers competing to supply distributors. These third party agents may specialise by brand (or import a limited range of brands) or specialise by the type of parts they bring in to Singapore, such as, body parts or air conditioning parts.¹⁴⁵ This specialisation increases the degree of market concentration. For example, one respondent suggested there may be only three large companies importing body parts.¹⁴⁶

¹⁴⁴ Interview transcript 30.

¹⁴⁵ Interview transcript 21 and 25.

¹⁴⁶ Interview transcript 21.

Furthermore, if the market share of the OE suppliers was taken to be the supply made through the vehicle dealerships and their own parts sales arms, their market share is likely to be somewhat higher than the 45 to 55 per cent noted above.

However, we obtained no evidence that the concentration levels in these markets are problematic, even with the presence of the vertically integrated dealership, whether by brand or by type of part. There appears to be sufficient competition between third party agents and importers, as distributors stated that they are able to obtain parts, including OE parts, from multiple sources.¹⁴⁷ This applies to most brands, particularly for the more common Japanese and Korean brands. The brands that were noted as being problematic were typically cited as being the more obscure Chinese car brands, which do not have a significant presence in Singapore.

Where less-commonly used parts are harder to obtain from Singapore-based agents, distributors (and even workshops) indicated a willingness to approach overseas agents or manufacturers directly.

The ability to substitute reconditioned or second hand parts for new parts acts as a further constraint on the prices agents and other importers may charge. While these parts are more likely to be used in insurance-related jobs, they may also be acceptable substitutes for car-owners who are particularly price-conscious.

In summary, we found no evidence that the degree of market concentration at this level of the supply chain significantly limits Singaporean distributors' choices in suppliers, with the exception of the vehicle dealerships who are required to purchase OE parts from the vehicle manufacturers (under the dealership or ownership arrangements).

4.2.2 Barriers to entry

It seems unlikely there are significant regulatory barriers to supplying parts for re-sale into Singapore. We understand that it is relatively easy to import parts into Singapore, as there are no import quotas or import duties (other than the 7 per cent GST, which applies equally to all products sold within Singapore). This facilitates the flow of parts into Singapore from multiple sources. For example, several distributors noted that it was relatively easy to purchase original parts from overseas suppliers, including via the internet.

It also seems unlikely that the regulations imposed by the Land Transport Authority (LTA) regarding the nature of the automotive parts that may be installed on cars in Singapore act as a significant entry barrier. Examples of parts that require LTA's approval include engines, exhaust systems, transmission or gearboxes.¹⁴⁸ However, these regulations primarily target consumer safety and nuisance concerns and mainly affect the import of generic parts, particularly for customisation purposes. For example, some automotive parts are disallowed if they threaten the safety of road users or emit loud noises that cause a nuisance¹⁴⁹ (e.g. air horns, chassis, engine capacity¹⁵⁰). We therefore do not consider these regulations to unreasonably limit competition in these markets.

The main entry barrier may be the exclusive appointment of agents, particularly by the original equipment manufacturers. For example, many agents are representatives of manufacturers or have relationships with these manufacturers (sometimes referred to as 'authorisation'). Where a factory has one representative already in Singapore, they may be unwilling to sell through a second authorised agent.

However, despite potential attempts to establish single agent supply arrangements in Singapore, our market research exercise indicated that there is an active parallel importing segment. The inability to prevent parallel importing of automotive parts or control the on-sale of parts from distributors and agents in other parts of the region reduces the likelihood that authorisation arrangements act as a barrier to entry in these markets.

¹⁴⁷ Interview transcript 7.

¹⁴⁸ Guidelines for Vehicle Modifications that Require LTA's Approval (one.motoring.com.sg).

¹⁴⁹ <http://www.lta.gov.sg/content/ltaweb/en/roads-and-motoring/modifying-your-vehicle.html>

¹⁵⁰ Guidelines for Vehicle Modifications that are Not Allowed (one.motoring.com.sg).

The second identified potential barrier to entry relates to the economies of scale arising from the ability to command volume discounts and achieve economies of scale in transportation costs. These factors suggest that, in order to compete within these markets, an agent must develop a sufficiently large customer base. However, for the following reasons, we do not believe these economies of scale to present a substantial entry barrier:

- economies of scale do not appear to be so significant as to suggest the markets are natural monopolies and the presence of a large number of distributors who are easily able to switch between suppliers means that new effective and competitive agents are likely to be able to secure a sufficient volume of demand to make their products cost effective; and
- the presence of significant economies of scale would be at odds with statements made by distributors and even workshops suggesting that they are able to by-pass the local agents and purchase products directly from manufacturers and agents located outside Singapore (although we do note that workshops and some retailers reported that they are able to secure lower prices through the stockists).

In summary, we do not believe there are significant barriers to entry into these markets.

4.2.3 Countervailing buyer power

Within the vehicle dealerships, the use of OE parts purchased from the relevant vehicle manufacturer is mandated. This is likely to be a condition of the exclusive vehicle dealership that the manufacturer offers, as the beneficiary of such arrangement is more likely to be the vehicle manufacturer.

Outside of the vehicle dealerships, buyers (i.e. mainly distributors) have a reasonably strong degree of countervailing buyer power in the relevant markets.

Distributors, both retailers and stockists, are well-informed purchasers that are able to buy the required parts through a number of sources. Retailers are easily able to purchase automotive parts from other agents, or even from stockists,¹⁵¹ and stockists also have the option of directly importing the automotive parts from overseas manufacturers or agents.¹⁵²

Distributors are not locked into any exclusive agreements with agents that prevent them from switching between agents or to new agents. Rather, distributors reported seeking a number of quotes for price comparison before making automotive parts purchases.¹⁵³ Retailers and stockists closely monitor the prices they are being charged and the repeat-purchase nature of the business makes it unlikely a given agent could sustain a significant price premium compared to other agents or off-shore suppliers.¹⁵⁴

4.2.4 Conclusion on market power

We therefore conclude that:

- the vertically integrated vehicle dealerships have significant market power in the supply of parts into Singapore; but
- outside of these dealerships, other agents and suppliers of parts to distributors compete relatively fiercely for sales and it is unlikely that any single agent or group of agents has substantial market power.

4.3 Theories of harm

The participants operating within these markets that were found to have market power were the vertically integrated vehicle dealerships. We did not find other import agents to, singly or jointly, have market power. Consistent with this market structure, we did not find any evidence of exclusive arrangements or collusive

¹⁵¹ Interview transcript 12.

¹⁵² Interview transcript 4, 7 and 23.

¹⁵³ Interview transcript 4, 12 and 23.

¹⁵⁴ Interview transcript 4.

behaviour amongst these firms. The following sections set out our assessment of the likelihood of the identified theories of harm significantly impacting competition in these markets.

4.3.1 Foreclosure of supply to competing distributors

The vertically integrated dealerships generally have a policy of not supplying OE parts outside of its authorised workshops as the purpose of their purchasing department is to ensure the supply of parts to their workshop rather than to supply parts to workshops more generally. However, even though independent distributors and consumers are not able to obtain OE parts directly from the vertically integrated dealerships, they have a number of alternative sources of supply, including:

- directly from car manufacturers. For example, Mercedes Benz has a Singapore-based parts business (not related to Cycle & Carriage) that sells OE Mercedes Benz parts to distributors in Singapore and the Southeast Asian region; and/or
- parallel importers that import directly from car manufacturers (located both in Singapore and the region).

Car manufacturers do not control the prices of OE parts sold by these parallel importers and appointed agents.¹⁵⁵

In general, we found no evidence that distributors are either unable to obtain the OE parts they seek or that they believe the prices they pay reflect a lack of competition within Singapore. As noted above, it is relatively easy and cost-effective to import parts into Singapore, which facilitates the flow of parts into Singapore from multiple sources. Many distributors noted that it was relatively easy to purchase OE parts from overseas suppliers, including via online retailers (although as noted earlier this is not a preferable channel due to quality concerns).

The range of options for sourcing OEM and generic parts appear to be even wider. Although certain agents may hold 'authorised' status for the importation of parts from certain OEM manufacturers, we understand there is competition between these authorised agents and parallel importers for the provision of most genuine parts as well as competition from generic parts. None of the companies we spoke to indicated that they had difficulties obtaining products from manufacturers located outside Singapore.

The exception to these findings relates to parts for Chinese-manufactured vehicles, which are relatively uncommon in Singapore. For these vehicles, distributors reported that parts are both expensive and comparatively more difficult to source. However, this appears to be related to the thinness of the market rather than competition conditions within the market.

4.3.2 Foreclosure of demand to competing suppliers

The vehicle dealerships have a policy of purchasing parts only from their associated vehicle manufacturer. This may be a requirement of their exclusive dealership agreement, as the benefiting party of such relationship would appear to be the OE parts supplier rather than the vehicle dealership.

The warranty¹⁵⁶ provisions and resultant market share of the authorised workshops may reduce the ability of OEMs and generic parts manufacturers to gain sufficient market share in Singapore to reach economies of scale. If the share of sales for these parts were increased, Singapore may attract agents from more parts suppliers, resulting in increased competition in the sale of parts to distributors and, ultimately, workshops and end-customers. The ability of these manufacturers to access the markets may result in considerable benefits to consumers, as there may be large differences in price between OE, OEM and generic parts.

¹⁵⁵ Interview transcript 49.

¹⁵⁶ As described in section 2.2.4, warranties can be provided by the car manufacturer, car dealer, or both, with the car manufacturer warranty usually applying in the earlier years (usually 3 years) and the dealer warranty in the later years of the warranty. While we have not been able to determine whether the car manufacturer or the dealer determines that cars have to be serviced or repaired at authorised workshops for the warranty to remain valid, such conditions apply throughout the lifespan of both the manufacturer and dealer warranty.

Offsetting the detriment to competition somewhat may be the use of Singapore as a regional hub by some manufacturers, collating orders from around the region and then placing the order for automotive parts. We understand that a number of agents in Singapore import products for re-export in the region. This is more likely to be the case for those manufacturers who are located outside of Southeast Asia. This benefits the local distributors by increasing the availability of parts within Singapore.

We also note that economies of scale in the importation of products from regionally-based OEM manufacturers may not be that high, given Singapore's relative closeness. As such, it is less likely that a reduction in the market share of the authorised workshops would significantly increase the level of competition in the market for genuine and generic parts by encouraging new suppliers into this market.

Outside of the vehicle dealerships, distributors have stated that they do not enter into exclusive arrangements with agents and that they are willing and are easily able to switch between agents, in response to price differences. There is, then, no indication that in general agents are able to lock-in a sufficient proportion of customers so as to foreclose demand to competitors.

4.3.3 Resale price maintenance

In general, the distributors reported that their suppliers do not dictate the prices at which they on-sell parts to workshops. This is consistent with the market conditions, in which the distributors are able to source products from a number of suppliers.

The exception to this is within the vehicle dealerships. Although there is not a distribution role as such within these firms, we understand that the prices at which the workshops sell parts to customers is provided by their purchasing arm. It is possible that these prices are dictated by the vehicle manufacturers who are supplying the OE parts. This is discussed further in section 6.2.2 in relation to the competition conditions in the end-customer markets.

4.3.4 Collusion and tacit coordination

We did not find any evidence of collusion or tacit coordination within these markets.

In particular, for those agents operating outside the vehicle dealerships, the ease with which stockists appear to be able to by-pass agents and undertake the importation role in-house suggests that agents would be unable to sustain higher prices through collusive conduct.

Given the identification of individual markets by brand, there is no need for the authorised vehicle dealerships to engage in collusion. However, it should be noted that the exclusive arrangements identified as problematic in the automotive parts industry are also likely to be problematic in the market for the supply of cars in Singapore. Specifically, the ability of car manufacturers to limit the sale of their vehicles to a single authorised agent through the dealership agreements may reduce intra-brand competition. However, an analysis of such effects was outside the scope of this study and we have therefore not considered this further.

4.4 Conclusions

Our review of the market conditions in which automotive parts are purchased for the purpose of on-sale to workshops suggests the following:

- The authorised vehicle dealerships are likely to have between 45 and 55 per cent, by volume, of the share of sales of parts within each vehicle brand (and a significantly higher proportion by value) and:
 - > do not supply OE parts to downstream competitors (although the vehicle manufacturer is likely to have other agents within the region supplying OE parts to these competitors);
 - > have exclusive arrangements with downstream affiliates that precludes competing suppliers from engaging with the authorised workshops;

- > set the prices at which the downstream affiliates may on-sell the parts to end-customers (which may or may not be dictated by the vehicle manufacturer);
- outside the effects of the vertically integrated dealerships:
 - > there is considerable competition for supply to distributors;
 - > there is no evidence of barriers to entry significantly impacting competition; and
 - > buyers (distributors) are able to switch easily and at relatively little cost between suppliers.

With regard to the theories of harm we identified as being potential impediments to competition in these markets, we found the following:

- foreclosure of supply to competing distributors – is unlikely as there are multiple paths through which automotive parts are able to be supplied into Singapore and distributors did not report finding it difficult to source the parts they require. This applied to OE, OEM and generic parts;
- foreclosure of demand to competing suppliers – the vehicle dealerships' policies of purchasing parts only from their associated vehicle manufacturer, combined with their relatively high market shares, may limit the ability of competing suppliers to gain economies of scale in Singapore. However, offsetting this, it is unlikely that the associated economies of scale are such that the relative efficiency of firms would be significantly impacted;
- resale price maintenance (RPM) – no evidence of RPM was found outside the authorised vehicle dealerships. The significance of these arrangements are discussed further in section 6; and
- collusion or tacit coordination – no evidence of collusion or tacit coordination was found within these markets.

5. Competition Analysis: Distribution markets

5.1 Description of the markets and theories of harm

As described in section 3, the markets at this level of the supply chain have been defined as:

- markets in which automotive parts are sold in essentially the same state as they are imported into Singapore for the purpose of being combined with mechanic services and on-sold to end-customers;
- the buyers are mainly the workshops as well as some end-customers who choose to either undertake the mechanic work themselves or prefer to purchase the mechanic services and parts separately;
- the sellers are the distributors, who can be broadly classified as:
 - > stockists; or
 - > retailers; and
- separate markets have been defined on the basis of:
 - > the vehicle brand the parts are produced for;
 - > the main use to which the parts are put (i.e. servicing and maintenance; repair; or customisation).

The theories of harm we identified and considered in these markets include the risk that the distributors individually or jointly, have market power and are abusing that power to the detriment of consumers by:

- foreclosing supply to competitors through exclusive relationships with suppliers (importers);
- foreclosing demand to competitors through exclusive relationships with customers (workshops);
- engaging in resale price maintenance arrangements; or
- engaging in collusion or tacit coordination.

5.2 Market conditions

The question at hand is whether any single distributor, or group of distributors, has sufficient market power to profitably engage in the abusive conduct noted above. Our industry study indicated that:

- the vehicle dealerships are likely to have between 45 and 55¹⁵⁷ per cent, by volume, of the share of sales of parts within each vehicle brand (and a significantly higher proportion by value);
- outside the effects of the vertically integrated dealerships:
 - > there is considerable competition for supply to workshops;
 - > there is no evidence of barriers to entry significantly impacting competition; and
 - > buyers are able to switch easily and costlessly between suppliers.

5.2.1 Market concentration

Similar to the discussion in section 4.2.1 the vehicle dealerships can be estimated to have market shares of between 45 and 55 per cent in their respective distribution markets and they do not sell OE parts to independent workshops. It should be noted that in the case of these companies, separating the distribution and importation elements of the business is an artificial distinction, as the distribution 'value-added' is largely negated as a result of having a single channel through which to purchase all parts.

¹⁵⁷ Source: HoustonKemp analysis as described in section 4.2.1.

Outside the vertically integrated dealership, there is a very large number of firms selling automotive parts in these markets, and estimates that have been provided include:

- Spire, based on its own industry knowledge and understanding, estimates there to be around 100 reasonably large sized stockists;
- sgcarmart.com lists over 180 stockists of car parts on its website;¹⁵⁸ and
- one car forum website¹⁵⁹ provided a list of around 280 distributors (stockists plus retailers) as at 2006;
- yellowpages.com.sg provides the following car parts and supplies companies (although this estimate is likely to include suppliers of goods that are outside the scope of this study, such as oil/petrol, radios and the like):
 - > 312 retailers;
 - > 188 wholesalers (most likely stockist and agents);
 - > 28 manufacturers (at least several of which appear to be agents); and
 - > 2 importers and exporters.

The degree of competition within the markets is further demonstrated by evidence that:

- most stockists carry parts for a range of vehicle brands, with particular emphasis on Japanese and Korean brands and the more common vehicle makes and models;
- many stockists carry a wide range of products across each of the identified markets;¹⁶⁰ and
- retailers generally carry whichever parts are likely to be fast moving, regardless of brand.

However, offsetting this is evidence that the number of stockists of any given brand is significantly reduced compared to the figures above. For example, searches on sgcarmat.com yielded the following number of stockists by brand. It must, however, be borne in mind that this is likely to be a subset of the stockists present in Singapore. Furthermore, the parts that are purchased for use by the authorised workshops are purchased through the vertically integrated dealership rather than these distributors. Set against this, there may be some specialisation by part type within this list, although this was not readily apparent in the descriptions provided on sgcarmat.com.

Table 10: Number of listed stockists, sgcarmart.com

Brand	Number of Stockists
Toyota	23
Honda	15
Nissan	22
Hyundai	15
BMW	6
Mercedes Benz	14

¹⁵⁸ <http://www.sgcarmart.com/directory/listing.php?BRSR=30&CAT=27&RPG=15>

¹⁵⁹ <http://www.mycarforum.com/topic/1306389-list-of-autoparts-distributors-in-singapore>

¹⁶⁰ Interview transcript 7, 8 and 23.

It may also be the case that while there are many stockists present, there are a few bigger players, relative to the rest of the stockists in the markets. Some of these include:

- JAE Auto;
- Tye Soon; and
- Min Ghee Auto.

Despite this evidence of specialisation, with the exception of automotive parts for BMW cars, workshops appear to have a large number of stockists to choose from for the main brands of automotive parts. When this is combined with the retailers also selling into the markets for commonly required automotive parts and the possibility of workshops by-passing distributors to purchase directly from agents, it becomes apparent that workshops have considerable choice of suppliers. Even workshops using BMW parts are able to choose from 6 listed stockists, which do not include Performance Motors (the authorised BMW distributor) or retailers.

The perception of a wide range of choices for workshops is supported by the fact that the workshops surveyed stated that they have no difficulty in obtaining parts and are able to seek multiple price quotes before deciding on which supplier to purchase their parts from. Most of the workshops reported that they consider the distribution markets to be competitive. Workshops reported that it was easy to get parts, especially for the common Japanese cars, BMW, Mercedes and Hyundai as it is easy to import these directly and there are many distributors.¹⁶¹

5.2.2 Barriers to entry

The main barrier to entry for distributors may be the significant investment that is required in the stock of parts.

Retailers in particular are expected to have parts on-hand if they are to make a sale, as workshops generally use retailers to source parts on an 'as required' basis, calling up retailers as and when parts are needed and even having the parts delivered to them in some instances.¹⁶² One retailer suggested the start-up costs may be around \$400,000, with stock being the largest contributor to that expense.¹⁶³

Similar to retailers, stockists must be able to provide parts to workshops in a timely manner to differentiate their service from that of agents or offshore suppliers. In fact, one retailer even mentioned that the problem may be worse for stockists as they often have to order the full range of parts from OEMs (or in standard proportions) which results in unnecessary accumulation of excess parts as parts of the car are often not purchased in standard proportions by customers,¹⁶⁴ suggesting that stockists face higher barriers to entry.

Therefore, a significant amount of stock must be carried in order to operate effectively in the distribution markets. The cash flow pressure associated with this may be partially mitigated by purchasing parts on credit terms. However, workshops also reported that they purchase parts on credit from the distributors. This, then, limits distributors' ability to reduce their cash outlay.

With regard to barriers to expansion or diversification, distributors that are already stocking certain brands may be able to readily increase their range into other brands, in response to a relative price shift. We did not hear of any restrictions on firms' ability to source parts from importers or directly from overseas manufacturers.

In summary, while new distributors need to be able to predict the parts that workshops and end customers would demand and hold a sufficient amount of those stock, these barriers cannot be said to be

¹⁶¹ Interview transcript 1, 8.

¹⁶² Interview transcript 4.

¹⁶³ Interview transcript 24.

¹⁶⁴ Interview transcript 7.

insurmountable for new entrants to the markets. The presence of a large number of stockists and retailers would indicate that entry is relatively easy.

5.2.3 Countervailing buyer power

Buyers (i.e. workshops) have a reasonable degree of countervailing buyer power in these markets.

Workshops are extremely well-informed purchasers of the parts they require. They can easily purchase automotive parts from a number of stockists, retailers, agents or even directly import the parts themselves. This is a repeat purchase business and price increases or premiums by distributors would be readily observed.

Workshops reported that they do not have exclusive arrangements with stockists or retailers and are not subject to contracts requiring them to purchase a fixed number of parts.¹⁶⁵ Rather, workshops reported that they are able to call multiple retailers or distributors,¹⁶⁶ with one workshop stating that it is able to call on around 20 distributors.¹⁶⁷ Workshops also noted that it is easy to switch suppliers,¹⁶⁸ and the discounts they get can range from 5 to 20 per cent.¹⁶⁹

Large workshops are also able to by-pass distributors to purchase directly from the manufacturer¹⁷⁰ or overseas agents.¹⁷¹ While this option is generally seen as being less attractive, as large quantities are needed to justify the shipping costs and achieve sufficient bargaining power against overseas agents or manufacturers, it nonetheless remains a viable alternative for workshops should they not wish to purchase automotive parts from distributors or if the price premiums charged by distributors become excessive relative to their value-add.

Workshops have also opined that the distribution markets are very competitive, that they are easily able to get parts from different suppliers and that there are almost no instances where distributors would refuse to deal with them, except when there are credit issues.¹⁷² This is true even for smaller workshops as they too have the range of choice of suppliers to choose to purchase their automotive parts from.

5.2.4 Conclusion on market power

We therefore conclude that:

- the vertically integrated vehicle dealerships have significant market power in the supply of parts at the distribution stage in Singapore; and
- outside of the dealerships, distributors compete relatively fiercely for sales and it is unlikely that any single agent or group of agents has substantial market power.

5.3 Theories of harm

Outside of the dealerships we did not find other distributors to, singly or jointly, have market power. Consistent with this conclusion, we did not find any evidence of exclusive arrangements or collusive behaviour amongst these firms. The following sections briefly assess the likelihood of the identified theories of harm significantly impacting competition in these markets.

¹⁶⁵ Interview transcripts 1, 8, 10, 11, 13, 14 and 15. – note, one respondent suggested it could not purchase from its suppliers competitors, but this was contradicted in other parts of the interview.

¹⁶⁶ Interview transcripts 1, 8, 13, 14, 15.

¹⁶⁷ Interview transcript 8.

¹⁶⁸ Interview transcript 1.

¹⁶⁹ Interview transcript 19.

¹⁷⁰ Interview transcript 19.

¹⁷¹ Interview transcript 10, 24.

¹⁷² Interview transcript 1.

5.3.1 Foreclosure of supply to competing workshops

The vehicle dealerships do not supply OE parts to competing workshops. The purpose of their purchasing department is to ensure the supply of parts to their workshop rather than to supply parts to workshops more generally. However, in section 4.3.1, we found that the dealerships' policy of not supplying OE parts to competing distributors was insufficient to foreclose supply of these parts to competitors, as supply is readily available through other means and prices were not dictated by the car manufacturers. In addition, it should be noted that OEM, generic and second-hand parts offer viable substitutes to the use of OE parts although we have been unable to determine the proportion of OE parts used by workshops, as compared to OEM and generic parts.

We therefore conclude that the policies of the vehicle dealerships are not sufficient to foreclose the supply of parts to competing workshops. This is consistent with observations made during the market research exercise, in which workshops stated that they are generally able to source the parts they require (with the exception that seldom-used parts may take longer or be more difficult to procure, which appears to be a function of the thinness of demand and supply rather than competition conditions).

Outside of the dealerships, we found no evidence that workshops are able to lock distributors up in exclusive contracts. Such arrangements would be inconsistent with the following observed market characteristics:

- the relative size of stockists to workshops suggests that it would be economically infeasible for the stockists to enter exclusive distribution arrangements;
- the 'shop front' nature of the retailers suggests that it would be practicably infeasible to limit supply to a few workshops;
- workshops did not report any difficulties obtaining parts from distributors; and
- neither workshops nor distributors reported having exclusive contracts with one another but in contrast specifically reported not having such arrangements.

5.3.2 Foreclosure of demand to competing distributors

The authorised workshops purchase parts from their associated vehicle manufacturer through the vehicle dealership and, with rare exceptions, do not purchase outside of this chain. This is likely to foreclose a significant proportion of demand to the independent distributors. It is reasonable to conjecture that if this proportion of demand were contestable, more distributors would enter the market. However, given that we have found this market to contain many suppliers and operate competitively, the impact on competition in the market and outcomes for consumers may be less significant and the marginal benefits from increased competition may not be as significant.

The independent workshops have stated that they do not enter into exclusive arrangements with distributors and that they are willing and are easily able to switch between distributors, either stockists or retailers, in response to price differences. Furthermore, distributors have not reported having difficulty supplying to workshops due to exclusive arrangements or loyalty discounts. There is, then, no indication that distributors are able to lock in a sufficient proportion of independent workshops so as to foreclose demand to competitors.

5.3.3 Resale price maintenance

In general, the independent workshops reported that distributors do not dictate the prices at which they on-sell parts to workshops. This is consistent with the market conditions, in which the distributors are able to source products from a number of suppliers.¹⁷³

¹⁷³ However, it should be noted that one respondent reported that its prices were largely dictated by its distributors. Such comment is inconsistent with other comments made throughout the market survey and observations of the market characteristics. One potential explanation may be that the respondent meant that his prices were based on the prices at which he purchased from distributors.

The exception to this is within the vehicle dealerships. Although there is not a distribution role as such within these firms, we understand that the prices at which the workshops sell parts to customers is provided by their purchasing arm. It is possible that these prices are dictated by the vehicle manufacturers who are supplying the OE parts. This is discussed further in section 6 in relation to the competition conditions in the end-customer market.

5.3.4 Collusion and tacit coordination

We did not find any evidence of collusion or tacit coordination within these markets and, in general, the conditions in these markets do not seem conducive to coordination:

- there are many existing distributors in the markets for most of the common brands;
- should distributors of a given brand increase their prices, distributors of other brands may be able to enter these markets through expansion of their business activities thereby defeating the price increase;
- workshops are able to bypass the distributors entirely;
- retailers reported that they did not interact much with one-another on a business basis;¹⁷⁴ and
- retailers and stockists operate different business models, making coordination across distributor types difficult.

As described earlier, distributors reported that margins are fairly standard and well-known in the industry, which may be consistent with either collusion, tacit coordination or workable competition. We have no evidence to suggest price collusion is taking place in these markets and, given the above characteristics, it is reasonable to conclude that this market is best characterised as being competitive.

5.4 Conclusions

Our review of the distribution markets, in which automotive parts are sold for the purpose of being combined with mechanic services and on-sold to end-customers, suggests the following:

- the authorised vehicle dealerships are likely to have between 45 and 55 per cent, by volume, of the share of sales of parts within each vehicle brand (and a significantly higher proportion by value) and:
 - > do not supply OE parts to downstream competing workshops;
 - > have exclusive arrangements with the authorised workshops that precludes competing suppliers from selling to these workshops (with some exceptions in case of shortage of parts);
 - > set the prices at which the downstream affiliates may on-sell the parts to end-customers (which may or may not be dictated by the vehicle manufacturer);
- outside the effects of the vertically integrated dealerships:
 - > there is considerable competition for supply to workshops from stockists and retailers;
 - > there is no evidence of barriers to entry significantly impacting competition; and
 - > buyers (workshops) are able to switch easily and relatively costlessly between suppliers.

With regard to the theories of harm we identified as being potential impediments to competition in these markets, we found the following:

- foreclosure of supply to competing workshops – is unlikely as distributors outside the vehicle dealerships did not report finding it difficult to source the parts their customers (workshops) require. This applied to OE, OEM and generic parts;
- foreclosure of demand to competing suppliers – the authorised workshops' policies of purchasing parts only from their associated vehicle manufacturer, combined with their relatively high market shares, may

¹⁷⁴ Interview transcript 7.

limit the ability of competing distributors to gain economies of scale in Singapore. However, given the degree of existing competition in these markets, it is not evident that opening up the market would result in significant tangible benefits to workshops, in the form of either a wider range of parts or lower price for parts;

- RPM – no evidence of RPM was found outside the authorised vehicle dealerships. The significance of these arrangements are discussed further in section 6; and
- collusion or tacit coordination – no evidence of collusion or tacit coordination was found within these markets.

In short, we found that the large number of stockists and retailers (especially for servicing parts) and the informed nature of customers (workshops), combined with their ability to by-pass distributors, suggest that prices in this market are likely to be constrained to competitive levels.

This view is supported by statements from workshop representatives, who have said that this is a competitive market, in which they are able to call on a number of suppliers and switch between suppliers easily.

6. Competition Analysis: Installation Markets

6.1 Description of the markets

As described in section 3, the markets at this level of the supply chain have been defined as:

- markets in which automotive parts are sold in bundles with mechanic services;
 - > although customer invoices may provide a break-down of the total bill into parts and labour, the complementary nature of these products is such that it is difficult to allocate prices or profits in a way that is uniquely meaningful. Therefore, where we observe price differences for a bundle of mechanic services and parts, it is reasonable to attribute some of that difference to the price of automotive parts.
- the buyers are car owners, who are likely to vary depending on the purpose for which the part is purchased, for example:
 - > customers bringing vehicles in for servicing and maintenance cover a broad base of car owners, and include those that are less likely to be well informed regarding the type of parts required and the standard prices of those parts. These customers may be more likely to be concerned about convenience and the competitiveness of the service package offered by the workshop;
 - > the purchase parameters for accident-related repairs are largely dictated by insurance companies, which rely on experts such as assessors to inform decisions; and
 - > vehicle owners wishing to customise their cars are more likely to know what they wish to have done and be less concerned with delays in obtaining parts. They are also more likely to be informed as to the appropriate range of prices for particular types of customisation.
- the sellers are the workshops, who include:
 - > authorised workshops, which have ownership or contractual linkages with vehicle dealers or parallel importers;
 - > independent workshops, who do not have tie-ins with vehicle dealers or parallel importers but may, nonetheless, be vertically linked to distributors;

These sellers may specialise, for example, many workshops have stated that they do not do much repair work¹⁷⁵ as the process of working with insurance companies can sometimes be complicated and administratively difficult.¹⁷⁶ On the other hand, some workshops specialise in body repairs and therefore derive the bulk of their revenue from repair work. Similarly, there are workshops that derive the majority (for instance, 70 per cent) of their revenue from customisation.¹⁷⁷

- separate markets have been defined on the basis of:
 - > the vehicle brand the parts are produced for; and
 - > the main use to which the parts are put (i.e. servicing and maintenance; repair; or customisation).

Given the significant supply and demand differences associated with these types of workshop interactions, the remainder of this section is structured so as to address each group of markets separately.

The theories of harm we identified and considered in these markets include the risk that the workshops individually or jointly, have market power and are abusing that power to the detriment of consumers by:

- foreclosing supply to competing workshops through exclusive relationships with distributors;

¹⁷⁵ Interview transcript 10 and 11.

¹⁷⁶ Interview transcript 15.

¹⁷⁷ Interview transcript 14.

- foreclosing access to other key inputs, namely high-tech diagnostic equipment and tools and industry know-how, to competitors through exclusive relationships with vehicle manufacturers;
- foreclosing demand to competing workshops through exclusive relationships with customers that require customers' dedicated use of authorised workshops;
- engaging in resale price maintenance arrangements; or
- engaging in collusion or tacit coordination.

6.2 Competition analysis – servicing and maintenance markets

6.2.1 Market conditions

The question at hand is whether any single workshop or group of workshops has sufficient market power to profitably engage in the abusive conduct noted above. Our industry study indicated that the authorised workshops in each car brand markets are likely to have a significant degree of market power as:

- the vertically integrated dealerships significantly increase the level of concentration in the markets although there is a large number of third party firms;
- barriers to entry can potentially limit entry and expansion; and
- buyers have limited ability to switch easily and costlessly between suppliers.

Market concentration

Similar to the discussion in section 4.2.1, the vertically integrated dealerships can be estimated to have market shares (based on volume) of 45 to 55 per cent in their respective end-customer markets. However, the difference in these markets is that the authorised workshop, part of the dealership, directly competes with independent workshops for the sale and installation of automotive parts. It is therefore in these markets that the lock in effects of the warranties offered by both the manufacturer and the vertically integrated dealership are more directly felt.

Outside the vertically integrated dealership, there is a very large number of independent workshops in Singapore, estimates that have been provided include:

- Spire, based on its industry knowledge and understanding, estimates there are around 1,500 to 2,000 workshops in Singapore;
- sgcar mart.Com lists 1,220 repair and servicing centres on its website;¹⁷⁸
- yellowpages.com.sg returns 927 results listed under 'Car Repairs & Service';
- ST Directory returns 1,140 results with a search of 'car repair'.¹⁷⁹

Although these estimates include workshops operating in the repair and customisation as well as service and maintenance markets, it is likely that the majority of these workshops will undertake service and maintenance work. Servicing and maintenance is seen as the baseline level of jobs most workshops are able to undertake. While some workshops prefer to do repair work¹⁸⁰ or focus more on customisation work,¹⁸¹ these are less common and such workshops often still rely on a steady base of servicing and maintenance work for a constant supply of revenue.

Despite the large number of workshops, there are indications that the markets (within each major brand) may be relatively concentrated. For instance:

¹⁷⁸ <http://www.sgcar mart.com/directory/listing.php?CAT=7>

¹⁷⁹ <http://directory.stclassifieds.sg/singapore-directory/car+repair/q/>

¹⁸⁰ Interview transcript 1.

¹⁸¹ Interview transcript 14.

- one industry expert¹⁸² estimated that the authorised workshops undertake approximately 70% of workshop repairs in Singapore for their respective brands (we note that this probably refers to market shares measured by value);
- a separate respondent stated that some big players jointly hold 50-60% of the market – this refers to, for example, companies that are outside the dealership chains but nonetheless vertically integrated across the distribution and workshop levels, such as ST Powered and HKS Garage (we note that this statement is somewhat at odds with the statements regarding the market share of the authorised workshop);¹⁸³ and
- several of the authorised vehicle dealers and larger independent workshops own more than one workshop outlet.

In summary, there may be a few large players (i.e. respective authorised workshops and large independent workshops) present in the markets for each vehicle brand, which command a significant proportion of the market. On the periphery, there appear to be a very large number of smaller workshops, operating at the fringe.

Barriers to entry

The first and most apparent barrier to entry is the impossibility of independent workshops to be classified as authorised workshops. Authorised workshops are owned and operated by the vertically integrated dealerships, and these vertically integrated dealerships do not licence or authorise other independent workshops, with the few exceptions of sub-contracting relationships by smaller dealers as discussed earlier.

Also, another significant entry barrier to a significant proportion of servicing and maintenance work may be the inability to access the technical information and expertise necessary to undertake tasks that require the manufacturer's computer technology. Many modern vehicles, especially continental cars, are connected internally through a whole-car computer system, the servicing of which requires up-to-date information and compatible systems. This is likely to be a greater impediment against workshops seeking to provide parts and services for continental brands.

Independent workshops have reported that they are generally not able to undertake all of the tasks that are carried out by the authorised workshops. This is particularly so for Continental cars (for example BMW, Mercedes Benz, Audi, Volkswagen cars), which mostly have sophisticated in-car electronic systems. The proportion of services that independent workshops have estimated they are able to provide ranges from 70¹⁸⁴ to 90¹⁸⁵ per cent of what authorised workshops can do.

Independent workshops may be unable to obtain the technological know-how and diagnostic equipment for two reasons:

- the car manufacturing companies may refuse to provide access to this input at a reasonable (non-discriminatory) price; and/or
- independent workshops may not be able to achieve sufficient scale within a brand to justify the purchase of the necessary equipment and information.

We have been unable to determine which of these is more likely to be the case for Singapore and this is an area that may warrant further exploration by the CCS. For example, we note that in the EU, there is a hardcore restriction against not providing the technical information and tools to competing workshops:¹⁸⁶

¹⁸² Interview transcript 30.

¹⁸³ Interview transcript 14.

¹⁸⁴ Interview transcripts 40, 42 and 43.

¹⁸⁵ Interview transcript 8.

¹⁸⁶ Article 5 [of?]

- (b) *the restriction, agreed between a supplier of spare parts, repair tools or diagnostic or other equipment and a manufacturer of motor vehicles, of the supplier's ability to sell those goods to authorised or independent distributors or to authorised or independent repairers or end users;*

Which is elaborated upon in the EU guidelines:¹⁸⁷

- (56) *[P]articular examples of technical information include software, fault codes and other parameters, together with updates, which are required to work on electronic control units with a view to introducing or restoring settings recommended by the supplier, motor vehicle identification number or any other motor vehicle identification methods, parts catalogues, repair and maintenance procedures, working solutions resulting from practical experience and relating to problems typically affecting a given model or batch...;*

Even if vehicle manufacturers are willing to supply diagnostic equipment and information to independent workshops at non-discriminatory prices, these workshops may remain reluctant to make such investments as it may not be able to be fully recuperated.¹⁸⁸ This effect may be exacerbated as a result of the authorised workshops commanding such a significant share of their respective markets.

Other possible entry barriers were identified by workshops. For example, one reported difficulty to opening a new workshop, or expanding an existing workshop mentioned in several¹⁸⁹ of the interviews was the inability to source suitably skilled employees. Other respondents commented that the low-margin nature of the business may be insufficient to justify the up-front investment required.¹⁹⁰

Countervailing buyer power

Countervailing buyer power against the authorised workshops in the respective markets is weakened by a number of factors.

The first, and perhaps most significant, are the warranty terms and conditions. In order for customers' warranties¹⁹¹ to remain valid, they must have their vehicles serviced, in accordance with the service schedule, by the vertically integrated dealerships' in-house authorised workshops. Furthermore, in Singapore, warranties generally also require non-warranty related work, including accident repairs, to be carried out by the authorised workshop. For example:

- Borneo Motors warranty requires that vehicles be serviced, maintained and repaired by Borneo Motors;¹⁹²
- Kah Motor's warranty similarly requires that all maintenance and repairs are carried out by Kah Motor Service Centres and that the car be sent to Honda Body Repair and Paint Centre for all accident damages repairs;¹⁹³
- Performance Motors' warranty requires that all servicing work to be carried out by Performance Motors;¹⁹⁴

¹⁸⁷ The Future Competition Law Framework applicable to the motor vehicle sector, Communication from the Commission, European Commission, and Supplementary guidelines on vertical restraints in agreements for the sale and repair of motor vehicles and for the distribution of spare parts for motor vehicles.

¹⁸⁸ Interview transcript 41.

¹⁸⁹ Interview transcripts 1 and 18.

¹⁹⁰ Interview transcript 45.

¹⁹¹ See section 2.2.4 for discussion on warranties.

¹⁹² <https://www.borneomotors.com.sg/en/service/toyota/toyotashield.html>

¹⁹³ http://www.honda.com.sg/cars/warranty_tnc.htm

¹⁹⁴ Sample Performance Motors Ltd Warranty provided by Spire.

- Cycle & Carriage's warranty is conditioned on all maintenance and repairs on vehicles being carried out exclusively by Cycle & Carriage authorised workshops;¹⁹⁵ and
- Komoco Motors' warranty is also conditioned upon all vehicles having a complete service history with Komoco Motors and any remedial works during the warranty period not performed at a Komoco service centre may disqualify the vehicle from warranty claims.¹⁹⁶

Authorised workshops only use OE parts (with some possible exceptions due to stock management). Therefore, the warranty arrangements lock customers into purchasing these relatively expensive parts, rather than using other OEM or generic parts of equal quality, on top of having to use the more expensive servicing and repair services from authorised workshops.

The practice of requiring that car owners go to only authorised workshops to maintain their warranties is inconsistent with practices in certain other jurisdictions and considerably reduces customers' choices in the market for servicing and maintenance related parts. The accompanying box discusses how this issue has been addressed in the EU and Australia.

Having "authorised" status may also provide a competitive advantage to these workshops outside the warranty period. Customers in Singapore are likely to be risk-averse when deciding which workshop to take their vehicles to. Although the price charged by authorised workshops may be high, the costs associated with a break-down experience, including the inconvenience, may well be substantial. Some customers are therefore unlikely to be willing to risk using a cheaper workshop with whom they are unfamiliar or for whom they do not have a recommendation. Exasperating this may be customers' willingness to accept the workshop prices as an implicit signal of the quality of servicing, suggesting that paying a higher price may be preferable to securing a cheaper service option.

In relation to both authorised and independent workshops, buyer power is further weakened by the asymmetric information held by the customer versus the workshop. Car owners are generally at a disadvantage in assessing the necessity of services and parts replacements or the appropriate price of spare parts, particularly for parts that customers may not routinely purchase.

Finally, buyer power may also be reduced through a lack of transparency in pricing. Workshops have told us they generally do not advertise their prices and the prices of servicing is likely to vary between cars, depending not only on the brand of car but also the age and general condition. Most independent and authorised workshops offer car servicing packages, but these may not be directly comparable with one-another, making it difficult for car owners to undertake comparisons.

Summary on market power – servicing and maintenance

In summary, we find that it is probable that the authorised workshops hold a significant degree of market power in the sale of automotive parts for servicing and maintenance purposes in their respective brand markets.

¹⁹⁵ Kia After-Sales Service and Warranty Guide, Cycle & Carriage.

¹⁹⁶ <http://www.hyundai.com/sg/en/Service/Maintenance/Maintenance/index.html>

Box 1 Treatment of workshop authorisation in other jurisdictions

European Union

Certain vertical agreements in the motor vehicle industry in the EU are subject to a block exemption¹⁹⁷ that covers vertical agreements relating to the purchase, sale or resale of spare parts and the provision of repair and maintenance services for motor vehicles.¹⁹⁸ In order to be covered by the exemption, agreements must not include any serious restrictions of competition, commonly referred to as the hardcore restrictions.

The EU guidelines note the following:¹⁹⁹

Parties should also assess the degree to which authorised repairers within the relevant network are able to compete with one another. One of the main factors driving this competition relates to the conditions of access to the network established under the standard authorised repairer agreements. In view of the generally strong market position of networks of authorised repairers, their particular importance for owners of newer motor vehicles, and the fact that consumers are not prepared to travel long distances to have their cars repaired, the Commission considers it important that access to the authorised repair networks should generally remain open to all firms that meet defined quality criteria. Submitting applicants to quantitative selection is likely to cause the agreement [to fall outside the Block Exemption].

In other words, the dealers must authorise workshops based on a reasonable set of criteria relating to service quality, rather than on the ownership arrangements.

Furthermore, the EU guidelines explicitly prohibit the requirement that car owners have repairs carried out by authorised workshops, for instance:²⁰⁰

Qualitative selective distribution agreements [may not be covered by the Block Exemption] if the supplier and members of its authorised network explicitly or implicitly reserve repairs on certain categories of motor vehicles to the members of the authorised network. This might happen, for instance, if the manufacturer's warranty vis-à-vis the buyer...is made conditional on the end user having repair and maintenance work that is not covered by warranty carried out only within the authorised repair networks. The same applies to warranty conditions which require the use of the manufacturer's brand of spare parts in respect of replacements not covered by warranty terms. It also seems doubtful that selective distribution agreements containing such practices could bring benefits to consumers...

Australia

The prohibitions against limiting consumer choices through warranties are even stronger under Australia's Competition and Consumer Act (2010), which prohibits dealers from limiting their warranty obligations or claim the warranty is void if the vehicle is serviced by someone other than the dealer or its agent. The Act prohibits anti-competitive exclusive dealing, which can involve a business attaching conditions to the sale of goods thereby restricting the buyer's freedom to choose who they deal with. One particular type of

¹⁹⁷ Commission Regulation (EU) No 461/2010 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of vertical agreements and concerted practices in the motor vehicle sector.

¹⁹⁸ Commission notice (May 2010) *Supplementary guidelines on vertical restraints in agreements for the sale and repair of motor vehicles and for the distribution of spare parts for motor vehicles* (2010/C 138/05)

¹⁹⁹ Paragraph 70

²⁰⁰ Paragraph 69

exclusive dealing is third line forcing when the supply of a good is conditional on the purchaser acquiring other goods from a third party.

In a publication jointly produced by the ACCC and other government entities in Australia, the ACCC has stated that:²⁰¹

“any suggestion by car manufacturers or dealers that motor vehicles need to be serviced at a licensed dealer to maintain the owner’s consumer guarantee rights is not correct”.

These prohibitions apply to both new and second hand cars. While car dealers in Australia have individually tried to impose restrictions on car owners, requiring that their cars be only serviced by authorised repairers,²⁰² such practices are legally not allowed and may be brought to the ACCC’s attention. The warranty on the car will remain valid as long as the car owner brings the car to a qualified repairer, even if it is an independent workshop, and if the car is serviced to the manufacturer’s specifications.²⁰³

6.2.2 Theories of harm – servicing and maintenance

Foreclosure of supply to competing workshops through exclusive relationships with distributors

This potential theory of harm, arising from the vehicle dealership’s policy of not supplying OE parts to competing downstream workshops, was discussed in section 5.3.1. As we noted in that section:

- workshops are able to source OE parts from distributors who are able to purchase such parts from the parts arms of the vehicle manufacturer or via parallel importers; and
- OEM, generic and second-hand parts offer viable substitutes (albeit of potentially differing qualities) to the OE parts.

On this basis we concluded that the policies of the vehicle dealerships are not sufficient to foreclose the supply of parts to competing workshops. This is consistent with observations made during the market research exercise, in which workshops reported that they do not have trouble sourcing the genuine parts they require and that they have a wide choice of stockists and retailers from which to seek competitive prices for parts. Workshops did not report that a significant proportion of customers sought parts that the workshops are not able to procure, rather, workshops reported that customers are willing to substitute between OE, OEM, generic and, at times, even reconditioned parts.

Foreclosure of competitors’ access to key industry know-how through exclusive relationships with vehicle manufacturers

The inability of workshops to carry out certain procedures was cited by a number of interviewees as limiting their range of services. This suggests that, for these services, customers will have little choice but to return to the authorised workshops. Coupled with a workforce that is generally not updated in terms of technological skills, a sizeable portion of work in the industry can potentially be foreclosed to the independent workshops. This limitation of consumer choice is likely to result in higher prices for the relevant services.

²⁰¹ Page 14, Motor vehicle sales and repairs, an industry guide to the Australian Consumer Law, 2013.

²⁰² <http://www.hyundai.com.au/owners/icare/warranty>

²⁰³ Servicing, New-car Warranty & You, <http://www.caradvice.com.au/85588/servicing-new-car-warranty-you>;
<http://www.theworkshop.com.au/new-car-warranty.html>;
<http://www.goauto.com.au/mellor/mellor.nsf/story2/97B2F48966A217E7CA257CFA00147F96>

Supporting the hypothesis that a significant proportion of work is unable to be carried out in the independent workshops, at least for some brands, is BMW's 'registration fee'. Performance Motors Limited (the authorised BMW dealer) states the following:²⁰⁴

7. If a BMW was not purchased from PML, would PML service the car?

The owner of the car will be required to register their car with PML first and will be subjected to a non-refundable registration fee of \$15,000 - \$30,000, depending on car model, to service their cars with PML. All successful applicants will be notified by mail before work commencement.

In addition, all cash works performed are subjected to a surcharge of 25% on top of the normal retail rate for both parts and labour.

This strongly suggests that the proportion of work that is not able to be undertaken by the independent workshops is sufficiently critical to the ongoing operation of the car as to provide the authorised workshops with a strong market position. Such policies are also likely to affect the degree of competition in the market for vehicles in Singapore, although such considerations are outside the scope of this study.

We also found evidence suggesting that authorised workshops may be using their resultant market power to require customers to purchase parts and services they do not require. For example, some respondents noted that certain authorised workshops may require customers to replace all parts not installed by themselves before they will undertake any work on the vehicle.²⁰⁵

It is difficult to pinpoint the proportion of procedures that are unable to be carried out by the independent workshops without a more intensive investigation into this issue. However, given the number of times this issue was raised in the interviews, we consider it likely that this has a significant impact on competition in the markets related to (at least) the high-end continental vehicles for which the electronic systems are particularly complex and pervasive.

Foreclosure of demand to competing workshops through exclusive relationships with customers

Our market research suggests that, for the brands we focused on, the warranty provisions of Singapore's vertically integrated dealerships are likely to reduce competition for the sale of car parts to end customers, resulting in these customers most likely paying higher prices than they otherwise would.

In Singapore, the vertically integrated dealerships only authorise the workshops that they own. Although most of these dealerships offer several authorised workshops for customers to choose from, their common ownership makes it unlikely that these workshops set the prices charged to consumers independently or effectively compete with one another. Indeed, vertically integrated dealerships have standard servicing and maintenance package prices that are not differentiated by which authorised workshops customers go to.²⁰⁶

That the authorised workshops would face greater competition from the independent workshops if the warranty provisions were not so stringent is demonstrated by:

- suggestions that price-sensitive clients may choose to have minor servicing and repairs (aside from the required scheduled services) carried out by independent workshops even within warranty periods;²⁰⁷
- customer switching patterns post-warranty period;²⁰⁸ and

²⁰⁴ <http://www.pml.com.sg/faqs.html>

²⁰⁵ Interview transcript 9.

²⁰⁶ Interview transcripts 26, 31, 34, 35, 36 and 37.

²⁰⁷ This proportion can be as high as 40 per cent (Interview transcript 10) to 50 per cent (Interview transcript 11).

²⁰⁸ Interview transcript 33.

- evidence of competition in services that are not warranty-related.

Many respondents reported to us that the price of servicing (including parts) at the authorised workshops is considerably higher than the price of comparable servicing at independent workshops using OEM parts. Some of the respondents quoted rates that are 2 to 3 times higher than those of independent workshops,²⁰⁹ resulting from both higher prices of labour and higher prices of automotive parts used. An OE part from the authorised workshop can already be up to 3 times more than an OEM part from an independent workshop.²¹⁰ In any case, we note that the price end customers pay for their car servicing, while individually itemised, is a bundled price for both labour and parts and it is arbitrary to specifically associate higher prices with labour or parts.

While it is possible that some customers would send their cars to authorised workshops whether or not their warranty conditions require that they do so, the significant drop in retention rates of authorised workshops indicate that beyond their warranty conditions, most customers prefer lower servicing and repair costs at independent workshops. This indicates that the conditions on the warranties do have a significant effect on the markets and impact on competition.

Resale price maintenance

We found no evidence of RPM occurring outside the authorised workshops. This is consistent with the broader market conditions, which indicated that independent workshops are able to purchase parts through a large number of retailers and stockists. It would therefore be infeasible for distributors to compellingly apply RPM agreements to supplied workshops.

In contrast, the price lists used by the authorised workshops are provided by the dealership and may even be dictated by the vehicle manufacturers (we were unable to determine precisely which party sets prices). Whether or not this can be termed RPM will depend on who is setting the prices:

- prices set by the parent company (the vertically integrated dealership, which may be a franchisee or a subsidiary of the vehicle manufacturer) represent the pricing practices of a single entity rather than RPM; however
- if the prices charged by the authorised workshops of franchisee dealers are set by the vehicle manufacturers, this is a form of RPM.

Whether or not the conduct is termed RPM, there is evidence that the authorised workshops are setting prices above significantly above the levels charged by independent workshops. Such prices are able to be maintained through a combination of the following factors:

- customers with cars under warranty must purchase parts through the authorised workshops in order to maintain their warranty;
- switching workshops outside the warranty period may be viewed as risky by customers with limited understanding of the workings of their vehicles;
- independent workshops are unable to undertake all the services provided by the authorised workshops, particularly in relation to the continental vehicle brands;
- conduct by authorised workshops that discourages the use of independent workshops – for example, we heard reports of authorised workshops requiring car owners to replace all parts installed by independent workshops before the authorised workshop would carry out repair or maintenance work.

Vehicle manufacturers in China have been investigated for RPM and tie-in arrangements and have been found to be engaging in anti-competitive conduct. Many of the features identified in these markets are also present in Singapore. Box 2 provides a brief summary of these investigations.

²⁰⁹ Interview transcript 1.

²¹⁰ Interview transcript 33.

Box 2: NDRC's Investigation into vertical restraints in the after-market automotive parts sector²¹¹

China's National Development and Reform Commission (NDRC) investigated several car manufacturers for engaging in vertical restraints in car distribution and aftermarket automotive parts industry. The companies involved included Jaguar Land Rover, Chrysler and Audi.

This investigation was aimed at identifying whether vertical monopolistic agreements were being used to increase the 'brand dealers' prices of after-sales services. It was noted that car manufacturers that dominate China's automotive market usually establish self-regulated parts and logistics systems, which other suppliers are generally unable to sell into.

A commission official was reported stating that upstream carmakers restrict the minimum selling price of dealers and limit their sales regions. In addition, they restrict franchisees to buying components from their own channels only. It was also noted that carmakers usually ask automotive parts suppliers not to supply products to other brand vendors without approval.

Industry experts stated that automakers had too much leverage over car dealers and automotive part suppliers, enabling them to control prices.

This led the vehicle manufacturers to make changes to their pricing practices as well as announce price cuts for cars (Jaguar Land Rover, Chrysler) and/or spare parts (Audi, Mercedes Benz, Chrysler, Toyota, Honda, BMW).

In August, the anti-trust regulator announced that it would punish Audi and Chrysler for monopoly practices.

In July of last year, the NDRC launched a further formal investigation into whether Mercedes-Benz has instituted anti-competitive tie-in sales and resale price maintenance agreements under its value-added service agreements. In August, the NDRC confirmed that Mercedes-Benz had imposed vertical restraints on its dealers, controlling the prices of automotive parts and maintenance in the after-sales market. Fines and perhaps behavioural commitments are expected to be handed down soon.

Collusion or tacit coordination

The initial interview responses we received showed multiple signs of price fixing activity between workshops. For example, one respondent said that the boss of the workshop talks to other competitors to fix prices²¹² while another said that routinely asks competitors about the prices they quote to customers to have a better gauge of whether he is charging the market price.²¹³

Further probing during later interviews with independent workshops suggest that this may not be the case, and that it may be simply price knowledge and observation among industry players.²¹⁴ This is especially likely given the proximity around which workshops tend to be clustered, making it very easy to know what

²¹¹ <http://app.parr-global.com/intelligence/view/1140798>; <http://app.parr-global.com/intelligence/view/1144494>; <http://www.wantchinatimes.com/news-subclass-cnt.aspx?id=20140828000017&cid=1202>; <http://www.cgsh.com/files/News/df914aa5-f6a5-4085-8f04-ee1adfee09a3/Presentation/NewsAttachment/6cb60dd9-ed74-4bb1-8a64-ef1f3157987a/China%e2%80%99s%20NDRC%20Fines%20Auto%20Parts%20and%20Bearings%20Companies.pdf>; <http://uk.reuters.com/article/2014/08/06/uk-china-autos-antitrust-investigation-idUKKBN0G604T20140806>

²¹² Interview transcript 11.

²¹³ Interview transcript 8.

²¹⁴ Interview transcript 43.

each other's pricing patterns are. Independent workshops have also been found to offer different service packages²¹⁵ and discounts to customers, tweaking the packages they offer to ensure their price are competitive.²¹⁶

It could well be that even if the stated prices of automotive parts are similar across different players, the effective prices customers pay differs between workshops, especially where workshops are known to give loyalty discounts to customers that frequent their shops. For example, different independent workshops have cited discounts ranging up to 10 per cent,²¹⁷ while other independent workshops also claim to quote different prices for walk-in and regular customers.²¹⁸ Limited discount margins can also reflect highly competitive markets where firms are not making high profits. Also, some respondents have stated that prices charged by workshops differ by regions, with workshops in central regions charging higher prices than those further from the central regions (e.g. Bukit Batok).²¹⁹

The presence of a trade association, the Singapore Cycle and Motor Traders' Association, could perhaps be seen to provide a pivot point for price fixing practices in the industry. However, the structure of the industry, with between 1,000 – 2,000 independent workshops in Singapore, makes it unlikely that price fixing activities are sustainable as it would be very difficult to monitor prices set by other workshops.

Nonetheless, even if such a conduct is taking place, especially given how small each independent workshop is, this conduct may not be having a significant impact on competition although we understand that price fixing agreements are per se illegal restrictions under the Competition Act in Singapore.

Conclusions – servicing and maintenance

Our review of the end-customer markets in which automotive parts are sold in conjunction with mechanic services for the purpose of servicing and maintenance suggests:

- the authorised vehicle dealerships are likely to hold significant market power, at least in part related to the fact that such dealerships are provided on an exclusive basis within Singapore, for example:
 - > dealerships do not offer the option of purchasing a car without warranty and the terms and conditions of warranties, which require customers to have all servicing and repair work undertaken at authorised workshops, increase the cost and risk of customers choosing independent workshops;
 - > dealerships that own workshops authorise only their own workshops to undertake services and repairs under the terms and conditions of the warranties and the authorised workshops are able to command a significant price premium;
 - > dealerships that do not own workshops generally authorise a preferred workshop to undertake services and repairs and generally charge a significant mark-up to customers over the cost charged by the workshop;
 - > independent workshops are unable to provide the full range of services offered by the authorised workshops;
 - > the authorised workshops have between 45 and 55 per cent, by volume, of the share of sales of parts within each vehicle brand (and a significantly higher proportion by value):
- the independent workshops operate in a competitive fringe:
 - > there is a large number of workshops providing services;
 - > customers are able to switch easily and relatively costlessly between independent workshops.

²¹⁵ Interview transcript 8, 13, 18, 20, 28 and 47.

²¹⁶ Interview transcript 40.

²¹⁷ Interview transcripts 40 and 41.

²¹⁸ Interview transcript 43 and 50.

²¹⁹ Interview transcript 45.

With regard to the theories of harm we identified as being potential impediments to competition in these markets, we found the following:

- foreclosure of supply to competing workshops – is unlikely as distributors are able to source products for supply to workshops from a number of sources;
- foreclosure of competitors' access to key industry inputs (i.e. technical information and diagnostic equipment) – although it is unclear whether independent workshops are unable to secure the necessary technical inputs as a result of explicit policies by the vehicle manufacturers or because of economies of scale, it seems likely that the resultant limitations on independent workshops' ability to offer a full range of services results in poorer outcomes for car owners;
- foreclosure of demand to competing workshops – the degree of customer lock-in to the authorised workshops appears to be sufficiently significant to be resulting in poorer outcomes (in the form of significantly higher prices) to car owners;
- RPM – the prices authorised workshops charge for automotive parts are set by either the parent company (which may be a franchisee or the vehicle manufacturer) and may be set or otherwise influenced by the vehicle manufacturer supplying the parts, through the franchise agreement. Whether this conduct fits within the definition of RPM will depend on the nature of the arrangements in place. However, the tie-up between the workshops and the vehicle manufacturers, along with the degree of customer lock-in and the observed difference in prices between independent and authorised workshops, strongly suggests that vertical conduct is having an anti-competitive effect;
- collusion or tacit coordination – we found some evidence of price coordination amongst the smaller independent workshops, although it is unclear whether this is likely to be having a significant impact on customer outcomes.

6.3 Competition conditions – repairs

Many of the competition conditions noted in the markets for servicing and maintenance also apply to the markets for the parts used in accident repairs. Differences lie in the ability of workshops to service this market and the nature of the buyers. The remainder of this section emphasises those aspects of these markets that differ from the service and maintenance markets.

6.3.1 Market Power

Market concentration and barriers to entry

Compared to the markets for servicing and maintenance, there are two factors likely to affect concentration in the markets for accident repairs.

First, it may be more difficult for workshops to provide repair services, particularly as the majority of these services are related to insurance claims. Workshops noted that there are relatively onerous administrative requirements associated with satisfying insurance claim requirements. Furthermore, smaller workshops reported that the risk of claims going unapproved posed too great a cash flow risk for their businesses,²²⁰ especially since car owners usually just wait for a decision from the insurance companies as to which car owner is at fault and leave the insurance companies to settle the repair bill with the workshop. We note that some workshops reported that they have tried to work around the cash flow issue by requiring that car owners pay them upfront for repair works, and then get a refund when the insurance companies makes a payment.²²¹ However, such arrangements are likely to be less attractive to car owners, putting these workshops at a competitive disadvantage. In addition, compared to the servicing and maintenance markets, it is possible that the technical equipment and know-how, including diagnostic tools, are more critical in accident repair cases.

²²⁰ Interview transcript 43.

²²¹ Interview transcript 42.

Further limiting workshops ability to service the repair markets are insurance companies' tendencies to have a list of workshops car owners may use.²²² The workshops may or may not be authorised workshops, but are determined by the insurance company.²²³ An independent insurance representative was quoted as saying that "essentially, insurance companies decides which workshops customers can or cannot go to".²²⁴

Independent workshops may have greater opportunity to provide repair parts and services for repairs not covered by insurance claims, either due to third-party insurance coverage or customer preference to pay the cost of the repair rather than lose the no-claims discount. However, warranty provisions often require that the car owners use the authorised workshops during the warranty period.

Taken together, these factors suggests that the list of workshops car owners can go to for repairs is more limited than for service and maintenance and that the smaller workshops are less likely to be involved in the accident repair markets. On balance, it is therefore likely that the degree of market concentration is higher for the accident repair markets than for the servicing and maintenance markets.

Countervailing buyer power

The majority of accident repairs are likely to involve insurance companies, who are potentially in a stronger bargaining position than individual car owners. Most importantly, insurance companies have the power to decide which workshops are approved and therefore may secure better prices for their clients' vehicle repairs. In addition, insurance companies may use vehicle surveyors and assessors, either independent or employed by them, to contain both the scope and price of work undertaken under the insurance claims. These surveyors and assessors determine the fair value and amount of repair works to be undertaken.

Despite this, a number of workshops stated that insurance jobs are potentially very lucrative, and that they are able to "maximise the insurance claim amount"²²⁵ or use cheaper parts than those that were used by the insurance company to determine the appropriate claim amount. Authorised workshops usually have a list of prices for the OE automotive parts used, and follow a cost-by-cost approach in determining the final prices of repair jobs. Independent workshops, on the other hand, usually submit repair quotes based on the market list prices of automotive parts, which usually matches that provided by the authorised workshops, even though it is unlikely they use the same types of parts for their repair jobs. Independent workshops are therefore able to make significant profits from repair jobs, as they usually get discounts on parts purchased from distributors and may not necessarily use OE parts.²²⁶

For repairs that are not covered by insurance companies, car owners have significantly less bargaining power. While it is possible that such out-of-pocket costs would encourage the car owners to shop around more for the best deals, search costs in a market with many suppliers can be very high. Also, car owners are likely to be less well informed regarding the required work or the reasonable price for that work than insurance assessors. One workshop noted that it routinely marks up third party claims by around 40 to 50 per cent more than the amount that would be charged to the insurance company.²²⁷

Summary on market power – repairs

There is a risk that consumers in this market are paying above-competitive prices, especially those that are undertaking repair works but are not covered by insurance, despite the bargaining power that insurance companies bring to this market:

²²² Interview transcript 38.

²²³ The basis on which these workshops are selected by the insurance companies was not considered as part of the scope of this market study.

²²⁴ Interview transcript 32.

²²⁵ Interview transcript 15.

²²⁶ Interview transcript 38.

²²⁷ Interview transcript 29.

- there is an increased degree of concentration within each brand market compared to the service and maintenance market;
- although some characteristics of the buyer-seller relationship tip the balance of power towards the insurance companies, there is still the risk that workshops provide repair quotes based on higher priced genuine parts but put in lower quality parts to save costs, reducing the likelihood that consumers pay competitive prices given the quality of the parts put in their vehicles; and
- customers who are not covered by insurance policies are in a particularly weak negotiating position.

6.3.2 Theories of harm - repairs

We concluded that the following theories of harm in relation to the markets for servicing and maintenance were unlikely to be present:

- the foreclosure of supply to competitors through exclusive relationships with distributors; and
- the foreclosure of demand to competing parts manufacturers through exclusive relationships with customers.

We also concluded that, although we found some evidence that price coordination may be taking place amongst the smaller workshops, it was unlikely that this has a significant impact on competition.

For similar reasons, these theories of harm are considered unlikely to be significantly impacting competition in the repairs markets. We therefore focus on the two theories of harm that are more likely to have a greater impact on competition as discussed earlier.

Foreclosure of competitors' access to key industry know-how through exclusive relationships with vehicle manufacturers

It is likely that access to the relevant information and diagnostic tools is more important to compete in the accident repairs markets. Therefore, for the same reasons as outlined in section 0 we consider it likely that this has a significant impact on competition in the markets related to (at least) the high-end continental vehicles for which the electronic systems are particularly complex and pervasive. Box 3 provides a brief description on China's recent attempt to ensure independent workshops are not denied access to the necessary equipment and tools required to carry out repair works.

Box 3: China's creation of a level playing field for vertically integrated dealerships and independent workshops in relation to repair works²²⁸

Just this month, the auto repair service regulator in Nanjing, China, (Nanjing Vehicle Repair Industry Administration Office under the Municipal Transportation Bureau) was reportedly trying to create a level playing field for vertically integrated dealerships and independent repair service providers in the auto repair sector.

The Administration Office is pushing fair competition and the break-up of monopoly by requesting auto manufacturers to provide technological information, spare parts and quality guarantee services, which are currently only available to "4S dealers" (a term for the authorised car dealers in China, representing Sale, Sparepart, Service and Survey), to independent auto repair service providers. By doing so, the government hopes to give car owners more choices for auto repair services. The objective was to benefit consumers by breaking up the vertically integrated dealerships' monopoly on spare parts, repair technologies and quality guarantees.

²²⁸ As reported by the Yangzi Evening News on 23 March 2015, citing a source from the Nanjing Vehicle Repair Industry Administration Office under the Nanjing Municipal Transportation Bureau.

Foreclosure of demand to competing workshops through exclusive relationships with customers

Vertically integrated dealerships' conditions in their warranties that car owners also undertake repair works at their authorised workshops mean that the foreclosure of demand to competing workshops in the repair markets is likely to be as significant as in the servicing and maintenance markets. We also note that insurance companies are aware of the higher costs associated with authorised workshops and may charge higher insurance premiums or co-payments for customers wishing to use these workshops.

Somewhat exacerbating this issue may be the insurance companies' determination of the list of workshops car owners can go to for accident repairs when the repairs are claimed under insurance. Even car owners that are no longer under warranty with the vertically integrated dealerships are not free to go to any workshop for repair works. However, insurance companies in this case are the ultimate consumers, in the sense that they are paying the bills. Rather than being a foreclosure issue, this is then better classified as a customer preference for some workshops over others.

Resale price maintenance

The conclusions that we reached in section 6.2.2 regarding the risk of RPM in the servicing and maintenance markets are equally valid in relation to the repairs markets.

Conclusions – repairs

Our review of the end-customer markets in which automotive parts are sold in conjunction with mechanic services for the purpose of repairs suggests:

- the authorised vehicle dealerships are likely to hold significant market power for similar reasons as in the servicing and maintenance markets;
- aside from the vertically integrated dealerships, the degree of market concentration may be higher than in the service and maintenance markets, due to:
 - > insurance companies' approval of select workshops;
 - > the administrative and cash flow issues associated with insurance-related work, which dissuades a number of smaller workshops undertaking such jobs;
 - > the likelihood that the technical diagnostic equipment is more critical for repair than service and maintenance work;
- the presence of insurance companies increases the degree of countervailing buyer power, however:
 - > not all repair work is covered by insurance companies; and
 - > although insurance companies are very concerned about containing the cost of claims, they are less concerned to ensure that the quality of the parts used is consistent with the basis of the claim cap.

With regard to the theories of harm we identified as being potential impediments to competition in these markets, we found the following:

- foreclosure of competitors' access to key industry inputs (i.e. technical information and diagnostic equipment) – is likely to limit independent workshops' ability to effectively compete in these markets;
- foreclosure of demand to competing workshops – the degree of customer lock-in to the authorised workshops appears to be sufficiently significant to be resulting in poorer outcomes (in the form of significantly higher prices) to car owners; and
- RPM – the prices authorised workshops charge for automotive parts are set by either the parent company (which may be a franchisee or the vehicle manufacturer) and may be set or otherwise influenced by the vehicle manufacturer supplying the parts, through the franchise agreement. Whether this conduct fits within the definition of RPM will depend on the nature of the arrangements in place. However, the tie-up between the workshops and the vehicle manufacturers, along with the degree of

customer lock-in and the observed difference in prices between independent and authorised workshops, strongly suggests that vertical conduct is having an anti-competitive effect.

6.4 Competition conditions – customisation

Compared to either the servicing and maintenance markets or the repair markets, the market for customisation parts and services differs in several key respects.

First, the authorised workshops do not undertake customisation of vehicles. Vertically integrated dealerships sell the vehicles as they are provided from the factory and do not modify vehicles. Therefore, in contrast with the other installation markets, the market power of the authorised workshop is not a relevant consideration.

Second, customers seeking customisation of their vehicles are more likely to be aware of the parts and services they require and more likely to be able to research the likely cost of these through word of mouth and via the internet. This reduction in asymmetry of information between the customer and workshops improves customers' bargaining power and ability to ensure prices are reasonable.

Third, customisation jobs are unlikely to have the same degree of urgency as repairs as car owners are able to use their cars while waiting for parts. These customers may, then, be more willing to shop-around for parts, both within Singapore and online, and wait for the parts to become available if it means a lower price.

Offsetting the above factors, to some extent is the specialised nature of these parts and services, which may limit the number of workshops customers are able to choose from. We understand that a smaller number of workshops are likely to specialise in these types of cases.

However, in sum, it seems unlikely that any workshop, or group of workshops, will have significant power in these markets. Supporting this, our market research exercise did not elicit any evidence of abuse of power in these markets.

7. Conclusions

The purpose of this market study has been to assist the CCS understand the aftermarket supply of and demand for automotive parts in Singapore and to identify any aspects of the industry that are likely to be impeding competition.

The lack of readily available industry information and the necessary reliance on survey data limited the extent to which we were able to utilise quantitative information on such factors as market shares and margins. However, the market research exercise provided a relatively rich picture of Singapore's aftermarket automotive parts industry and raised concerns with several aspects of the markets' operations.

On the whole, we found that many aspects of the industry support strong competition in the relevant markets. In particular:

- the relative ease with which parts can be imported into Singapore supports a wide range of suppliers to enter the relevant markets and as a result we did not find any evidence of distributors or independent workshops encountering significant difficulties in obtaining most parts;
- distributors and independent workshops almost uniformly reported that they have a large number of suppliers from which to choose and are able to switch between suppliers easily and costlessly; and
- where difficulties in obtaining parts were raised, these were in relation to seldom-required parts (such as those relating to rare or obscure brands or parts that seldom need replacement) – in these instances, the thinness of the market rather than competition features are more likely to be relevant constraints.

However, we found that several features of vertically integrated dealership market segments are highly likely to be restricting competition. The conduct we found to be of most concern included:

- the authorisation of a single dealership by each vehicle manufacturer (which may be a franchisee or a company subsidiary);
- warranty terms and conditions that require non-warranty related servicing and repairs to be carried out at authorised workshops;
- the limitation of authorisation by the dealership and/or the vehicle manufacturer to workshops linked to the relevant vehicle dealership;
- the requirement that the authorised workshops use only OE parts procured through the vehicle manufacturer;
- the likelihood that the prices at which these parts are on-sold to end-customers are set by the vehicle manufacturers; and
- the possibility that vehicle manufacturers may be limiting the supply of diagnostic tools and information to independent workshops.

Given the relative age of Singapore's vehicle population (suggesting a higher proportion of vehicles that are covered by warranty) such conduct may be expected to have a more significant impact on competition in this country than in other jurisdictions.

On the basis of the analysis we have undertaken, we conclude that there is a risk of competition being lessened through the following mechanisms:

- customer tie-ins that foreclose demand to independent workshops – owners of vehicles covered by warranty are required to purchase servicing, maintenance and repair parts and services from the authorised workshops in order to maintain their warranties, with the following implications:
 - > customers are unable/unwilling to switch between workshops, even when the price differences are substantial;

- > independent workshops are unable to supply parts and services to a significant proportion of car owners, increasing the barriers to entry and making it more difficult to justify investment in diagnostic tools and equipment;
- requirements that authorised workshops purchase parts from the vehicle manufacturer – these arrangements lock authorised workshops into purchasing and on-selling higher-priced parts and prevent other suppliers competing for these volumes;
- The price at which parts are sold by authorised workshops to car owners are set either by the dealership or the vehicle manufacturer and are typically above the prices of similar parts sold by independent workshops. The higher prices are able to be sustained due to:
 - > customer lock-in, including through warranty arrangements; and
 - > limitations on the services that can be supplied by independent workshops; and
- limitations on independent workshop's access to diagnostic tools, equipment and knowledge – which reduce the extent to which these workshops are able to compete with authorised workshops. The limitations on access may be arising through:
 - > discriminatory terms and conditions of supply imposed by the vehicle manufacturers; and or
 - > an inability of independent workshops to gain sufficient market shares to justify the required investment in such inputs.

Our study was not intended to provide a legal assessment of behaviour, and the information we were able to access is significantly short of that which the CCS would be able to obtain through its statutory powers. In our view, then, the issues we have raised around the conduct of the vertically integrated dealership networks in Singapore warrant further investigation.

A1. List of Interviewed Respondents

Under the conditions of this engagement, the number of interviews was limited to 50. Given the number of layers in the supply chain as well as the large number of participants operating within certain roles, the resultant information must be interpreted as *indicative* of the competitive conditions, rather than *definitive*. Furthermore, Spire was unable to secure as many interviews with individuals within the vertically integrated dealerships as originally intended. Where possible, the information obtained through the interviews has been supplemented with other available information.

[List of interviewees redacted to maintain confidentiality]



A2. Interview Questions

A2.1 Authorised dealers

1. Do all new cars come with only OEM parts installed in them?
2. Do all vehicles under warranty have to have their cars serviced and maintained by you? What are the contractual clauses that tells them that they have to do so?
3. Which other car brands do customers most frequently compare you with?
4. What is the business strategy of vertically integrated car manufacturers in relation to the aftermarket sales of auto parts?
5. Who are your suppliers of auto parts and where are they from?
 - i. What are the supply conditions like?
 - ii. Do you purchase parts from third party auto parts distributors?
 - iii. Do you purchase third party auto parts or only from OEMs?
6. Are the costs of repairs and maintenance parts and services factored into the price of a car?
7. To what extent do the prices offered by parallel importers affect your terms and conditions of sale and in particular, what is the influence of parallel importers not offering warranties?
8. What warranty options do you offer and what are the prices associated with these options?
 - i. Describe terms of the warranty
 - ii. Are the 'no warranty' options?
9. How restrictive are the warranties in terms of the servicing requirements on the customer and their choice in workshops?
10. What are the reasons for these restrictions?
11. Have you heard of the term "adoption fee"?

A2.2 Authorised workshops

1. Who are your suppliers of auto parts and where are they from?
 - i. Do you purchase parts from third party auto parts distributors?
 - ii. Do you purchase third party auto parts or only from OEMs?
2. What is your total revenue (to get estimate of market coverage)?
3. Please describe the composition of your revenue:
 - i. Regular servicing vs. maintenance
 - ii. Repair vs. customisation
 - iii. Warranty vs. non-warranty cars
 - iv. Genuine vs. third party auto parts
 - v. Repeated loyal customers vs. ad-hoc customers
 - vi. New car owners vs. used car owners
 - vii. Arrangements with insurance companies vs. non-insurance companies

- i) Describe the arrangements with insurance companies
 - ii) Are car owners able to choose the workshop they go to?
4. What factors do car owners consider when choosing a workshop?
5. What is the proportion of cost of auto parts as compared to the other services (e.g. cost of service/maintenance)?
6. What is the typical mark-up (margin) on a part?
 - i. Are mark-ups similar across all parts?
 - ii. Is the mark-up standard throughout the industry?
7. What is your estimate of you and your main competitors' market share in the sales of auto parts for the brands you service?
8. Do you have ownership tie-ups with specific distributors?
 - i. Is this a common industry practice?
 - ii. Are there exclusivity arrangements (either from supplier or from you)?
9. How competitive is the supply of auto parts from distributors to workshops?
 - i. Are there many distributors for each brand/part?
 - ii. Do distributors generally carry multiple brands/parts (market power from distributor)?
10. Do your suppliers influence the prices of the auto parts you sell to your clients?
 - i. Are there price-matching commitments?
11. Are customers willing to substitute different brands of auto parts for one another?
 - i. Are there parts that are more substitutable between brands?
12. What relationship do you have with motor insurers?
 - i. Are prices different when cars are covered under insurance and when they are not?
13. Do customers that are under warranty able to sign up for the service packages that you offer?
14. What is the difference in servicing cost between a car under warranty and a car that is not?

A2.3 Parallel importers

1. Which other car brands do customers most frequently compare you with?
2. Do you offer warranties on the cars you sell?
 - i. If yes, describe the terms of the warranty
 - ii. What is the price difference with and without warranty
3. Do you provide after sales car service (e.g. repair, maintenance)?
 - i. Where do you obtain your auto parts from?
 - ii. What are the supply conditions like?
 - iii. Is it difficult to obtain genuine auto parts?
 - iv. Do you purchase auto parts from both third party distributors and OEMs?
4. Describe general situation of the supply of auto parts industry

A2.4 Distributors

1. What is your total revenue from the sale of auto parts?
 - i. Break down of revenue between engine parts, body parts, suspension parts, servicing parts
2. What is the approximate market share between you and your competitors?
3. Is the industry dominated by a few large players or are there many small players? (question on market concentration)
4. Is it a general trend that stockists only carry genuine parts?
5. What brands/parts do you carry?
 - i. Do you provide a full range of parts?
 - ii. Do you carry both genuine and third party auto parts?
 - iii. Are there certain auto parts that only have genuine parts?
6. What is the difference in supply conditions between genuine and third party auto parts?
7. Are there restrictions in the import of parts?
8. Do your suppliers influence the price you set on the sale of auto parts?
 - i. Are there price-matching commitments?
 - ii. Are you part of a buying group?
9. Who are your customers?
 - i. Are there ownership tie-ups with workshops?
 - ii. Do you supply to both third party workshops and authorised workshops and proportion?
 - iii. Are the supply conditions for genuine and third party auto parts the same?
10. Describe supply conditions with customers
 - i. Are there exclusive arrangements (either from you or from them)?
11. Are your customers able to switch brands of auto parts for one another?
 - i. Are there parts that are more substitutable?
12. Do you sell directly to end-consumers?
 - i. What proportion of sales does this make up?
13. Which distributors are your main competitors?
 - i. Estimate market share
14. What is your typical mark-up on parts?
 - i. Are there different mark-up ranges across different parts?
 - ii. Are the mark-ups standard across the industry?
15. Do you offer discounts to your customers?
 - i. Described the discount mechanism
16. How difficult is it for a new distributor to enter the market?
 - i. Main impediments?
17. How do you seek to gain more business? For example, do you actively market your services, use internet-based platforms or rely on word-of-mouth?

18. Could you describe the market for agents?

- i. Is there more than one agent for each brand of OEM parts?
- ii. Or do manufacturers only appoint one agent per brand?
- iii. Where are these agents located?
- iv. Is it difficult to obtain genuine parts?
- v. Do agents carry both genuine and generic auto parts?
- vi. Are there a lot of agents in the market?
- vii. Is it difficult for a new agent to enter the market?
- viii. What proportion of parts is imported from what countries?
- ix. Do agents have fixed pricing from the manufacturers?

19. Are there some types of parts where there are more generic products? Other types of parts that generally only have genuine parts?

20. Are you able to buy Original Equipment (those that are stamped with the car manufacturer's logo) auto parts?

- i. How/where do you buy them?
- ii. Are they more expensive than other OEM parts (not stamped with car manufacturer's logo but still genuine)?

21. What is the difference in supply conditions between genuine and generic auto parts?

22. Do your suppliers influence the price you set on the sale of auto parts?

- i. Are there price-matching commitments?
- ii. Are you part of a buying group?

23. Do you offer discounts to your customers?

- i. Described the discount mechanism

24. Do you know what prices workshops charge on the auto parts they sell?

- i. How do you know?
- ii. Do you think the workshops meet and discuss what price to set?
- iii. Are the discounts they offer different?

A2.5 Independent workshops

1. Which brands of cars do you service?

2. What is your estimate of you and your main competitors' market share in the sales of auto parts for the brands you service?

3. Is it difficult for a new workshop to enter the market?

- i. What are the main barriers to successful entry?
- ii. What types of car brands usually require more sophisticated tools (e.g. computer systems)?
- iii. For the more difficult car brands, are you able to do all of the work that the authorised service centres do?
- iv. For the less difficult car brands, are you able to do all of the work that the authorised service centres do?

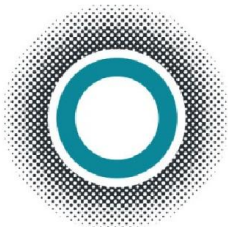
- v. Are there some equipment that you need to buy to do some complicated kind of work (e.g. computer systems)?
 - vi. Why do you not buy that?
 - vii. How expensive are the computer systems and tools?
4. Do cars that are under warranty come to you?
- i. What proportion of all your cars are cars that are under warranty?
 - ii. Do you do more servicing jobs and the authorised service centres do more repair jobs?
 - iii. Do car owners generally prefer to go back to authorised service centres for bigger/more expensive jobs and to you for smaller (e.g. servicing) jobs?
 - iv. What kinds of jobs are you less likely be able to do? Elaborate in detail please.
 - v. What types of car brands usually require more sophisticated tools (e.g. computer systems)?
 - vi. How much more do you think car owners pay if they service their cars at authorised service centres as compared to here?
 - vii. Do you know if authorised service centres lower the prices of their servicing packages after cars are no longer under warranty?
 - viii. Do car owners request for Original Equipment (stamped with car manufacturers' brand) auto parts?
5. Are the prices of auto parts charged by you the same as that charged by other workshops?
- i. Are the same prices only between workshops within the same area or throughout Singapore?
 - ii. How do the workshops decide on the prices? For example, is it discussed in a meeting or simple observation of what other workshops are charging?
 - iii. What happens if some workshop does not charge the same price?
6. Do you give discounts on the auto parts you sell?
- i. Are the discounts the same across different workshops?

A2.6 Insurance companies

1. Describe conditions of claims
 - i. Do you require customers to use specified workshops?
 - ii. Do you require customers to use genuine auto parts?
2. Estimate market share of car repair market
 - i. Would it be the same as car insurance market in general?
3. Are the costs of auto parts a significant cost component of the claims you receive?
 - i. Are costs broken down? What is the percentage?
4. Do you have tie-ups with any dealers?
5. Do you have tie-ups with any workshops?
6. Are your customers able to choose which workshop they visit in the event of insurance claims?
7. Do you have a say in the cost of auto parts?
8. Please describe the process of insurance claims (e.g. role of IDAC).

A2.7 Industry experts

1. Estimate market shares of main auto parts distributors
 - i. Describe who they are
 - ii. General auto parts industry supply chain and structure
2. Estimate market shares of main workshops
 - i. Describe who they are/relationship between authorised and third party workshops
 - ii. General auto parts industry supply chain and structure
3. Describe general competitive conditions in the supply of auto parts in Singapore.
4. What is the proportion of genuine and third party auto parts used in the industry?
5. Are distributors located outside of Singapore able to compete for customers in Singapore?
6. Describe how warranties dictate customers' choice of workshops.
 - i. Do customers switch workshops after the warranty period?
7. What are your opinions on dealers' requirement that customers only service their cars at authorised workshops for their warranties to remain valid?
8. How difficult is it for a new distributor to enter the market?



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