The structure of our argument

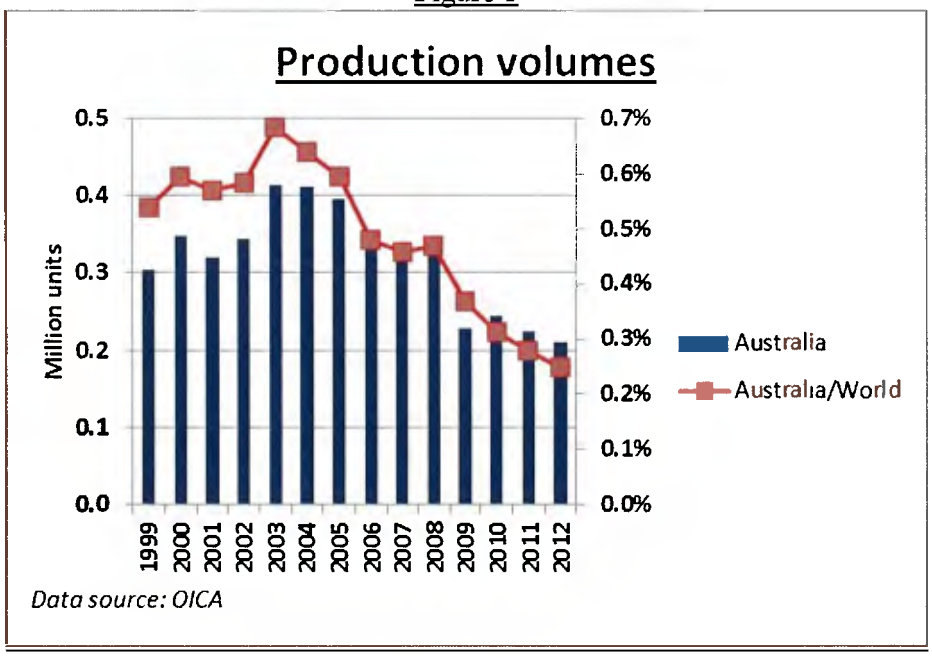
Submission from Autopolis Strategy Consultants

Our purpose in making this submission to the Productivity Commission's enquiry on the future of the Australian automotive industry is not to repeat known information which is already available to the Commission from other sources. Rather, it is to explore the logic of Australia's position within the global automotive industry, the results of the public support afforded it until now, the options realistically open to it, and which of them would justify future support

Australia's position relative to world automotive production has seriously weakened over the last 10 years. Public support under ACIS and ATS has failed to secure its future.

Figure 1 shows the Australian industry's production volumes (columns, left hand axis) from 1999 to 2012 and its share of world vehicle production (line, right hand axis).

Figure 1



From 1999 to 2003, Australian production increased by over a third and its share of global production also increased by almost a third. This generated a good deal of optimism and a determination to support the national industry by means of a considerable injection of public funds, through ACIS and then ATS, even as import tariffs were taken down to negligible levels. This strategy has clearly failed. 2012 production was down almost 50% from the peak and share of world production fell by well over half, as growth accelerated in the emergent markets. Mitsubishi abandoned production in Australia, Ford is now to follow. The Automotive Transition Scheme has been nothing of the sort, as it never defined a viable end state to which to transition. In retrospect, the federal and state governments accepted the industry as the industry chose to define it and proffered support which simply attempted to maintain the status quo.

The principal problem is not with those external factors out of the industry's control: the exchange rate, labour costs or inadequate government support.

The exchange rate and high labour costs have not helped, although the impact of the former has been mitigated to some degree by importing more components. Australia is not a low-cost country but its automotive labour costs are no higher than Germany's. The US had a big problem with the UAW's labour rates but this was forcibly addressed through the bankruptcies of GM and Chrysler. The UAW made major concessions.

The problem in Australia is certainly not lack of government support. Per car produced, the Australian industry gets more public money than almost any other operating in an open market, unprotected by high tariffs or non-tariff barriers. PPB Advisory Insights Automotive (May 2013) estimated government funding per vehicle produced in Australia at USD 1,966, compared to 1,303 for Germany and 2,908 for the US, based on Senator Carr's figures of support per head of population (USD 18, 90 and 96, respectively). Support per head is completely misleading, as it so much influenced by national production volumes relative to population – they are low in Australia.

It is important that any analysis of the assistance schemes applying in other countries is based on a sound knowledge and understanding of the industry and its operations in those countries, rather than being taken simplistically on face value. Merely summing the total 'assistance' paid by national and state governments for the purposes of country-to-country comparison is also misleading. In different countries and circumstances, assistance for the local industry can be provided in many forms, including:

- Direct grants and subsidies paid to the MVPs and/or ACPs
- Tax rebates and subsidies paid to MVPs and/or ACPs
- Loans (to be repaid) to MVPs
- Purchase of MVP equity (to be re-purchased by the MVP)
- Tariffs and/or excise duties applied to imported products
- Import-limiting agreements
- Adjustments to vehicle depreciation rates (and similar taxation relief measures) paid to consumers
- Rebates paid to consumers – 'cash-for-clunker' schemes etc

Each of these (and other) forms of assistance is quite different in nature and effect. For example, a dollar paid to a consumer as part of a 'cash-for-clunker' scheme cannot be summed with a dollar paid as a grant to an MPV to arrive at a 'total assistance' figure. The Australian number is consistent with AUD6.2 billion of ATS support, spread over 10 years of producing 300,000 vehicles per year. This money is paid to the industry itself.

Given that the 2012-13 production volumes were around 220,000 units, the subsidy per vehicle produced is AUD 2,200.

With an estimated 50,000 people employed in the actual manufacturing activities of the MVPs and ACPs, the subsidy per employee is around AUD 10,000 pa.

We note that the figure of '200,000 Automotive Industry jobs at risk' has been suggested recently by interested parties. Once again, careful, insightful analysis is required to verify the validity of such statistics. Clearly, the only jobs relevant to this discussion are those directly involved with the Design, Engineering and Manufacturing of vehicles and parts (MVPs and ACPs). Those jobs that are involved with the sales, service, repair, fuelling, insurance, parking and garaging are required whether vehicles are manufactured in Australia or elsewhere.

The OECD has compared financial support to the industry across its member countries (www.oecd.org/eco/outlook/44089863.pdf).

Germany paid Euro 2,500 for each old clunker traded in, at a cost of Euro 5 billion, meaning 2 million additional cars sold. This money went to consumers, not to the industry - EU state aid rules prohibit the latter. If half those extra vehicles were imports, the German industry gained 1 million units. Assuming a Euro 15,000 factory selling price and a 20% margin over variable costs, this meant Euro 500 million incremental profit. With 5.6 million units built per year, that makes Euro 90 per unit – for one year only. The scheme has not been in operation since 2010.

If the US government gave its industry USD 2,908 for every unit built (as per the PPB Advisory figures, referred to above), that would cost USD 30 billion per year. There is no such program.

It did offer USD 3,500 to 4,500 per clunker removed, for a cost of USD 3 billion, again paid to the buyers, not the industry. That implies 750,000 extra new cars. Assuming half were imports, with a factory selling price of USD 20,000 and 20% margin, the US industry reaped an extra USD 300 million in profit. That is USD 30 for each of the 10.3 million units it produced – again over the year of the scheme only. To this should be added aid from individual American states, which are mainly in the form of tax rebates. The industry does not receive the face value of these but the equivalent saving on corporate taxes, a function of the effective tax rates of different firms. Many of these concessions are one-offs, intended to encourage a particular local investment.

The overall assistance figure per vehicle produced for Germany, Europe in total or the United States is substantially lower than the Australian one. A proper comparison would require looking at all the sources of support in each country and computing how much the industry really gets from each of them, then comparing their sum to annual vehicle production. Far from being less supported than others, the Australian industry gets more per unit built than any other in the OECD, i.e. countries with open new vehicle markets, not fenced off by major tariff and non-tariff barriers.

The real problem is with Holden's manufacturing business model: weak sales and inadequate scale for competitive success in mass-market vehicles.

Survival in the global mass-market automotive industry requires huge production volumes to amortise the enormous costs of developing platforms, models and major components (engines and transmissions in particular). Global leaders, such as Toyota, GM, VW, Ford or Renault-Nissan, build different models on common platforms, whose global annual volumes can reach 3 million units. The aim is to reconcile production scale with enough model diversity and frequent enough updating or replacement to attract customers in different world regions with

different driving patterns and requirements. This is achieved by putting a variety of "hats" on the platforms, at a much lower investment cost in design, development and tooling than for the platforms themselves.

Toyota Australia builds a global product, the Camry, on a global platform, whose development and updating/replacement costs are amortized over global volumes, with only limited engineering capability required within Australia. The Toyota model does not require or justify a full local engineering capability. The Altona plant competes with other plants in the worldwide Toyota production network and this will continue for as long as Toyota needs its capacity and it is competitive. 2/3 of production is exported. Local content appears to have been reduced in recent times to cut cost, as the Australian ACP sector has lost volume and competitiveness relative to overseas suppliers. Toyota Australia mainly lives by importing and selling a range of vehicles far wider than it produces locally.

A significant proportion GM-Holden's business is also now based on importing vehicles, the majority of which are produced in Korea. In contrast to Toyota, it builds the Commodore and derivatives on an Australian-developed and maintained platform. It has participated in platform-sharing programs (eg the Camaro) and has achieved limited success in exports of Commodore to the Middle East and the US, rebadged originally as Pontiac and more latterly, Chevrolet.

By contrast, Ford Australia was not able to achieve any increase in production volumes by way of significant export or platform-sharing programs. Hence the entire Design, Engineering and Production-establishment costs for Falcon and Territory are borne by (rapidly declining) sales of its Falcon and Territory models in the local market, which is clearly not viable.

Traditional Australian designed cars – and, importantly, the brands themselves – have simply lost their local prestige and market following, as the Australian market has become more sophisticated, with increased purchasing power and a host of different brands and models available in it. Their appeal in export markets has been too limited to compensate for the lost domestic volumes.

Commodore is produced at speciality vehicle volumes and unit costs but sold at volume vehicle prices, leaving Holden's manufacturing operations firmly in the Loss Zone (Fig 2, below). Holden itself has apparently admitted that producing mass-market vehicles in Australia is not financially viable. Reduced local content will not get it out of this box, nor will recently-negotiated incremental reductions in labour costs. Ford evidently could not justify developing a new Australian product. Nor did local assembly of a global one – switching to the Toyota business model - look financially plausible at the low volumes achievable in the Australian market. It is not clear what Holden gains by assembling the Cruze at a low local content, compared to simply importing it, other than to add volume to its under-utilized local manufacturing operations. Transoceanic shipping of finished cars and other light vehicles costs remarkably little. In shipping industry terms, they are specialised bulk, using huge dedicated car-carrier ships and with the particular virtue of a cargo that loads and unloads itself.

Insufficient scale is particularly felt in the ACP sector, which makes 75-80% of the content of the finished vehicle and contributes much of the industry's technological innovation. Design, development and tooling for systems and components limited to Holden's small volumes is

very costly. Toyota's local suppliers are able to execute designs that have already been developed elsewhere, in Toyota's global supplier base. Heavy, bulky, low-value components and those closely tied to the variety of vehicles being assembled are best produced close to the vehicle assembly plant. Examples are large pressings, seat assemblies, bumpers, interior trim, complete air conditioning systems. At the other extremes, high-value, light, compact and invariant products, such as integrated circuits, will be sourced from whatever supplier is most competitive, wherever they may be in the world. The drop in volumes and local content severely hurts the Australian supplier sector and makes its own cost position and that of the domestic MVPs worse.

Australia is defending a non-viable national role in mass-market vehicles.

The rules of the world mass-market vehicle industry are clear. Small, unprotected markets are best served by CBU (completely built-up) imports, as the extra cost of shipping them is far outweighed by those of trying to build them locally. They will of course require some adaptations to local market conditions. But the platform (or more recently module) approach caters for this at minimum cost. A major regional market, such as NAFTA (US + Canada + Mexico), the European Union or China, justifies local assembly for high-volume products, in order to remove currency exchange rate risks but – more importantly – to allow quicker and more flexible response to individual customer orders, instead of building up vast stocks of vehicles. Market demand pulls production, rather than production pushing product into the market. Even in open markets, aggressive new entrants – Japanese and Korean so far – have been further encouraged to invest in local assembly by import quotas and gentlemen's agreements, so as to placate local sensitivities about jobs and the balance of payments. Lower-volume up-line and niche vehicles continue to be imported when their manufacturers reside outside that particular market.

Emerging countries have generally found that demand for new cars explodes once per capita purchasing power passes a certain threshold. The resulting drain on the balance of payments plus considerations of national prestige and economic development leads them to want to create a national automotive industry. The latter was the case in Australia post-1945. The nascent industry is protected by high tariffs and other non-tariff restrictions on CBU imports, sometimes a total ban. High local content requirements are often imposed on MVPs operating in the country, sometimes flanked with subsidies to vehicle exports. The low volumes of production result in high unit costs, which persist unless the local market becomes large and/or large exports can be achieved. Cars and other road vehicles are not commodities that can be sold on spot markets. They require dealer networks to sell and support them. In the open destination markets, these are in the hands of established MVPs and it is difficult and costly for new entrants to create new ones or capture existing dealers. The industry is naturally oligopolistic, at both the MVP and ACP levels. Complicated negotiations take place between the global vehicle groups and national governments in emerging markets to find mutually acceptable solutions. Protected emerging market countries on the fringes of large established open markets may be used by large vehicle groups as low-cost production sites, with large volumes of vehicle exports paying for the importation of components which cannot be economically sourced locally and of CBUs to broaden their local offerings. This was evident around the European Union in Franco Spain; Turkey; the Czech Republic, Poland, Hungary and Romania before these countries joined the EU; and, more recently, in Morocco and Algeria.

Holden faces a choice between three options: give up, rely on continuing massive public support, or do something else.

The Australian light vehicle market is neither large nor any longer protected. Thus there is no economic justification for continuing the production of mass-market light vehicles here. The Holden brand is no longer the national icon it once was, based on a distinctive and truly Australian product. Increasingly, it is used to rebadge imported vehicles, making Holden's role essentially similar to that of Vauxhall in the UK, which rebadges Opel vehicles, with one assembly plant remaining in Ellesmere Port. For the Australian government to wish for or command an increase in export volumes is an illusion. Direct subsidies to exports are out under WTO rules. Trying to defend the status quo by supporting the existing industry has simply not worked. Sooner or later, Holden will face major model replacement investment decisions, even a platform renewal decision, which will be impossible to justify at current production volumes. Ford baulked at replacing the Falcon or its engine, which could not economically be brought up to the Euro emissions standards that Australia will now apply.

Holden faces three options:

1. It could follow Ford's example and give up Australian production. Apart from the resulting loss of Holden jobs, there would be a devastating impact on the ACP sector, which could well force Toyota into withdrawing from Australian production also. The spin-off benefits from having an automotive industry are sometimes overstated. A country does not need to have one for other sectors to be able to learn techniques such as lean production, 6Σ or failure mode analysis. The automotive industry, however, is Australia's one substantial manufacturing sector and losing it would hurt, both in lost jobs and through the additional drain on Australia's balance of payments. These impacts must be soberly assessed, not hyped up for political ends (the "200,000 jobs")

2. It could continue to make modest improvements to the Commodore family, spinning out production for as long as possible, and asking for continued and likely increased public support. This strategy is likely to hit the buffers when the Commodore platform needs replacement. Thus it is ultimately a dead end street and a waste of public money. It is in fact regrettable in hindsight that the federal and state governments were persuaded by the industry's special case pleading to put so much money into it without demanding assurances that this would bring it to a viable condition, sustainable without further public support. In short, there was no strategy. What is seldom mentioned is the opportunity cost involved. Might it have been better to support other, less scale-intensive, higher-tech manufacturing sectors, more suited to Australia's situation? Businesses based on the life sciences or related to agriculture? The creative sectors? These questions should now be asked – and answered – before there are any more hand-outs to the automotive sector.

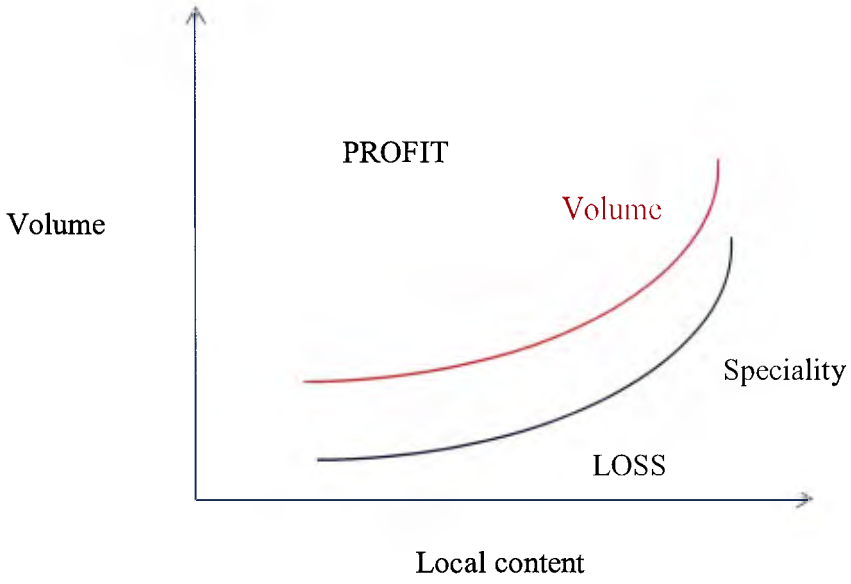
3. Alternatively GM could try to be more creative and restore the uniqueness of Holden-designed and -manufactured products, in order to achieve financial viability at more modest volumes, at home and through exports. There have been half-hearted attempts at this and missed opportunities. GM was intending to sell Holden vehicles under the Pontiac brand – until the Pontiac brand was eliminated in the post-bankruptcy restructuring of GM. There was talk of selling into the US market for police cars, in which the preference is for large-engined RWD cars. No serious attempt was made to sell into Europe, through the Opel network, although Korean-built GM cars sell there

in volume under the Chevrolet brand and Cadillac is being pushed there. Ford's Territory is a cleverly engineered and styled derivative of the Falcon, whose volumes could have been greatly boosted by even a tiny penetration of the large European and North American markets. Unfortunately no provision was made by Ford in 2005 for left-hand drive or to build in a diesel engine – 60% of European large and up-line cars are sold with as diesels. The reason given for this omission at the time was that Territory was a low-budget "skunk works" project, conducted more or less out of sight of Ford headquarters in Dearborn, MI. These episodes are a sad tribute to the lack of attention given to Australian operations by their parents.

An up-line strategy could work, as this sector of the automotive industry has a much lower scale threshold.

The problem with the Australian automotive industry has been lack of scale and the wrong strategy. Figure 2 shows frontier curves between profit and loss. The higher the locally produced volume, the higher local content can be, as more ACP sectors reach critical mass.

Figure 2



Lack of local scale in ACP sectors can always be circumvented by importing those components. But if local content falls too much, local assembly ceases to make sense. This is the point that Ford reached and that Holden is approaching, if it has not already reached it.

Price realisation and margins are far better in the speciality and up-line sectors, as the table below shows. BMW and Audi are twice as profitable as the best performing volume manufacturer, Toyota. Thus the curve for speciality vehicles lies below that for volume vehicles. Price levels for up-line cars are particularly high in Australia, relative to those for mass-market vehicles. The up-line and specialty sectors are dominated by European MVPs , the largest being German – Audi, BMW and Mercedes-Benz. Unlike the mass-market manufacturers, which tend to over-compete to a suicidal extent, this is something of an orderly oligopoly. Their products are distinguishable from one another, not only in styling

and construction but also, importantly, in 'DNA'. Their strong brand images rest on real differentiation. Demand is more stable than for mass-market vehicles in the mature, established markets and is very strong in the emerging markets. The strong positions of the three large German MVPs plus Porsche, which is itself very distinctive, still leaves room for other national vernaculars: Jaguar, with its own distinctive products and strong British flavour; Range Rover, in a special sector of its own, up-line SUVs; Alfa-Romeo with its heritage of Italian automotive engineering and styling; Cadillac in the US; and Lexus as Toyota's entry. Why not a distinctive Australian up-line brand, a proud assertion of Australianness?

Net profit before tax per vehicle produced, in Euros, 2012

Ferrari	24,352
Porsche	16,461
BMW	3,403
Audi	3,169
Mercedes	2,365
Toyota	1,587
Hyundai	1,255
VW	605
Fiat	-165
Seat	-278
GM Europe	-487
Ford of Europe	-756

Source: www.autohaus.de, from Center for Automotive Research

There may yet be an opportunity to recreate a distinctive Australian platform and family of vehicles built on it, with a strong innovative and technology content, a solid local brand image and following, plus a sufficient export potential, which can justify premium pricing and thus survive at modest volumes. Given the appropriate engineering and marketing support, a viable strategy could be devised to export that product to markets such as Europe, the US and Asia, using GM's already existing channels and brand structures. The chairman and CEO of GM, Dan Akerson, recently commented publicly on the lack of coordination between the Opel and Chevrolet brands in Europe. If this can be instituted, then room might also be found there for distinctive rejuvenated Holden products. Given the great size of these markets, the new Holden products would only need to achieve a very small penetration of them to generate an increase in overall volumes that, with the better margins earned would transform the financial performance of the Holden operation.

There is an example of such a revival: Jaguar Land Rover. Jaguar is a true up-line specialist, with a distinctive positioning and image within passenger cars, building some 75,000 per year. Land Rover occupies much the same position within SUVs, building 300,000 per year. Interestingly, JLR has been remarkably successful in the low-volume, up-line market with minimal public assistance. With effective market analysis and product planning, combined with competent execution, it is possible to succeed in the up-line market space. Volvo Cars is another possible example. GM should at least be challenged on whether or not such an option is feasible. It should in fact be challenged on its whole strategy for Holden, which has not happened so far.

Is GM the best on-going steward of Holden's design and manufacturing heritage?

There is a difficulty with the idea of the Holden-built product moving up-line. Volume manufacturers have almost universally had a miserable track record in trying to enter the premium speciality sector. Opel has been struggling for a while to move itself up-market, in order to avoid competing head-on with Chevrolet. Ford let go of Jaguar, Land Rover and Volvo to new Asian owners as part of its consolidation strategy in the face of the GFC, not having succeeded in making a go of them. Cadillac has never achieved anything much outside of the US. Renault and PSA's up-line attempts have ranged from the weak to the ridiculous. Fiat virtually killed the Lancia brand and came close to killing Alfa Romeo. Lexus, for all Toyota's efforts, has never made any headway in Europe, the heartland of up-line cars.

If GM cannot or will not do it, should Holden's engineering and manufacturing operations have a new owner? There are Asian and European groups that might be interested. Speciality vehicles are not limited to passenger cars, as Range Rover has shown. We should be looking at all non-volume vehicle sectors. Medium and heavy trucks, however, are probably out of reach for Australia and special-purpose vehicles, such as those intended for the military involve very low volumes.

The emphasis in government automotive industry policy must shift from how to support to what to support

There are no easy or simple answers. What must happen now is a dispassionate and independent review of the history, current position, apparent prospects and options for the Australian automotive industry in its global context. We need to define what a defensible future position might be, without indefinite subsidy, and a plausible trajectory for reaching it, including possible overseas partners. This must cover both the vehicle and component sectors.

Once a commercially viable, sustainable future path for the industry is defined, a case for government assistance can be mounted and assessed. Whatever form that assistance takes, it must be considerably more transparent and accountable than has been the case hitherto. It should be based on a clearly defined and measurable Return on Investment, with a clear timetable. The Australian public and taxpayer are entitled to be fully informed on the nature and value of that assistance, the purpose to which it will be put and the anticipated outcome against which its success can be assessed.

Autopolis is a strategy consulting firm that specialises in the automotive industry. It has worked for clients in most sectors of the industry and on government policies for the industry, and in most regions of the world, including Australia.