Submission by

HOLDEN

to the

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Inquiry into Post 2005 Assistance Arrangements for the Automotive Manufacturing Sector

For media comment on this submission:

Jason Laird
National Manager Corporate Communications
Tel: 03 9647 5278
Fax: 03 9647 1997

For questions regarding the content of this submission:

Alison Terry
Executive Director Corporate Affairs
Tel: 03 9647 1485
Fax: 03 9647 1997

Samantha Read
National Manager Government Relations and Public Policy
Tel: 03 9647 2017
Fax: 03 9647 1997

Geoff Chamberlain
Chief Economist and Treasurer
Tel: 03 9647 1717
Fax: 03 9647 1747

For information regarding the modelling work supporting this submission:

Jeffrey Rae
Director
ACIL Consulting
Tel: 03 9600 3144
Fax: 03 9600 3155

Geoff Chamberlain
Chief Economist and Treasurer
Tel: 03 9647 1717
Fax: 03 9647 1747

HOLDEN

TABLE OF CONTENTS

PART A

Holden's Vision for the Industry and its Relationship with Government

PART A: Holden's Vision for the Industry and its Relationship with Government

Introduction

Since the last review of the automotive industry which commenced in 1996, the Australian automotive manufacturing industry has continued to undergo substantial change. Combined with the significant changes that occurred in the period from the mid 1980s, a historical picture emerges of an inwardly focussed, highly protected industry operating in an unsatisfactory policy and economic environment, on a transition path to becoming a dynamic industry able to hold its head up in world automotive markets.

In 1996, it was already apparent that the industry faced few options if it was to be successful on this path. At that time, as is the case today, the industry faced a number of important constraints and opportunities. It is now possible to review the adjustment path that the industry has taken over the past six years and in light of that history to assess the opportunities and issues that lie ahead.

Holden's submission to the Inquiry into Post-2005 Assistance Arrangements for the Automotive Manufacturing Sector is structured in two parts. Part A sets out Holden's views on the path the industry has followed since the last review, and its vision for the industry in the future. It also outlines Holden's relationship with Government, providing a summary of the optimal assistance arrangements to apply post-2005, and how these should be structured to set the industry on a growth trajectory that will allow it to operate without sector specific assistance in the not too distant future. Part B sets out Holden's response to the specific issues and questions raised by the Productivity Commission in the discussion paper.

Perspectives from 1996: The Australian Automotive Industry

At the time of the last industry review Holden presented a picture of an automotive industry characterised by a number of positive indicators, which included:

- improvements in productivity, quality and management effectiveness with all indicators continuing the upward trend;
- improved labour relations through a more constructive partnership and recognition of common interests;
- an increased focus on research and development;
- an expansion of automotive exports;
- improved profitability generating sufficient earnings to support world class investment; and
- enhanced cost performance.

At that time, Holden had already gained an improved image in the eyes of General Motors, with some aspects of its business being regarded as useful templates for other international plants. Coupled with this, it was Holden's view in 1996 that Australia had demonstrated a degree of comparative advantage in car making through its geographic location, workforce and skills availability, and infrastructure.

Most of these positive indicators remain for the industry today. One significant area which has not improved since 1996 is the area of labour relations. Increasingly, disputation with unions predominantly in the component supplier sector is undermining the partnership and common interest approach that was developed through the 1990s. Failure to address the underlying causes for this deterioration will present a significant barrier to the industry.

In 1996, a number of significant threats to success were also identified. In particular, these concerns related to:

- exchange rate factors;
- the Australian domestic tax environment;
- the internal efficiency of the national economy generally; and
- access of Australian automotive manufacturers to regional markets.

Again as we look back on achievement since 1996, it is interesting to note that there have been some significant improvements, in particular in the Australian domestic tax environment. Replacement of the wholesale sales tax with the goods and services tax has had the effect of removing the significantly disproportionate sales tax burden previously borne by new car purchasers.

While some areas of taxation have been substantially revised, gaps remain, particularly in state payroll taxes. To the extent that the tax impacts local production but not imports, it represents a disincentive for local production and should be addressed. The selective levying of state stamp duty on only some types of goods, notably cars, is another example of a tax that is causing distortion and inefficiency in the economy. These examples illustrate the kind of internal economic structure that makes it difficult for Australia to attain the twin goals of retaining a car industry while moving toward negligible assistance levels.

In the area of exchange rate factors, the vulnerability to fluctuations in exchange remains a significant issue and one that needs to be reflected in any future assistance arrangements for the industry. There is hope that in the long term, the disincentive to capital intensive industry created by Australia's volatile exchange rate will be alleviated. The share of the national export revenue represented by services and manufactures has shown a steadily increasing trend. If this continues, in time the currency will come to be regarded as productivity-driven rather than commodity-driven, and volatility should decline as a result. Additionally, as companies such as Holden build their export capability there is an increasing opportunity to develop natural currency hedge positions,

thus reducing the impact of exchange rate variations. Nevertheless at this point in time the volatility of the exchange rate represents one of the difficulties faced by local automotive producers. This problem will not be overcome in less than decades.

Concerning the internal efficiency of the national economy, it is evident that Australia is reaping the benefits of a very substantial economic reform program in the latter part of the 1980s. However reform efforts since that time have mostly been to little avail, with recent Commonwealth indirect tax changes being the main exception, although discriminatory tax treatment remains in place at the State level. Competition policy reform seems to have fallen far short of expectations, and microeconomic reform generally may have fallen victim to "reform fatigue", since significant recent beneficial changes are difficult to identify. Labour market flexibility also does not appear to have improved greatly since the last industry review. In total, the signs of some improvement in economic dynamism that have been seen in the 1990s, may have been mostly due to reforms adopted a decade earlier. If this is the case the outlook for the current decade must be viewed as disappointing.

Most importantly the issue of access of Australian automotive manufacturers to regional markets in Asia has not progressed since 1996, other than at the margins, and in some cases access has worsened. It is interesting to repeat some of Holden's comments in 1996 as many of these hold true today.

> *"Most of the regional markets on which Holden's forward strategy depends, are protected, restricted, or closed to Australian exports of built-up vehicles. Reasons vary. In some cases there is a desire to create or nurture a domestic industry, in others an aim of restricting the number of cars in use, and in still others the motive is simply revenue gathering. Whatever the purpose, the result is to impose substantial obstacles to market access – particularly when there are means for competing suppliers to escape the impact."*
>
> *"A phased reduction in duty levels on automotive products down to negligible rates, could be agreed between Australia and regional countries. If such an agreement could be formalised and committed by the various countries by 2005, a decision could be taken in that year to move ahead with automotive tariff reductions between the beginning of 2006 and the beginning of 2010, based on annual reductions of 2.5 percentage points. If this were done Australia could enter the year 2010 with the automotive tariff at the 5 per cent general rate. Alternatively, if formalisation of such a firm and binding agreement were <u>not</u> achieved by 2005, Australia should continue with its year 2000 assistance arrangements until such time as formalisation of the agreement occurred.*
>
> *We emphasise that if Australia followed this path, it would be absolutely essential that it lead to rapid and general dismantling of automotive tariffs in the region. Only by achieving full access to regional markets can Australia hope to have a vibrant, successful automotive industry in the context of an open domestic market. We therefore submit that there should be no move toward reduction of Australia's year 2000 automotive assistance arrangements until the full elimination of the various assistance regimes in the region is not just agreed, but legally committed by the nations involved."*

Looking back on the opportunities and threats identified in 1996 provides a generally positive result for the industry as a whole. Nevertheless, in some important areas, a considerable amount of work remains to be done.

Perspectives from 1996: Holden's Strategy

At the time of the 1996 review Holden had embarked on a project to introduce a second car line to the Elizabeth Plant. In addition, a second new project had been defined for left-hand drive Commodore introduction. At the broader level, Holden's strategic direction encompassed significant changes in three key areas of its operations:

Manufacturing

Holden's manufacturing mission was to be integral to GM's Asia Pacific strategy through continuation of the Commodore range and through establishment of Holden as the Asia Pacific regional source of the medium sized car line (the Vectra).

In line with those plans, the Vectra project was introduced at relatively low investment. Unfortunately, the sustained weakness of the Japanese economy, particularly since 1997, resulted in export volumes far below expectations. The lingering effects of the Asian economic crisis of 1997 exacerbated the problem by diminishing the prospects of longer term growth in the planned second phase of the project beyond 2003. The result of these developments was that the Vectra project was relatively short lived.

In terms of the second new project, the left-hand drive Commodore is now firmly established in a number of markets with an emphasis on the Middle East. Holden's left drive exports now constitute more than 80% of the total, and have driven nearly all of the export expansion.

Engineering

Holden's strategic direction at the time of the 1996 review was to become GM's regional centre for product engineering and design. This objective has now been achieved, with engineering support services being provided out of Holden's Asia Pacific Engineering Support Group to China, India, Thailand and a number of other markets in the region. The benefits achieved in terms of export revenues, improved skills base and expanded career opportunities for Holden engineers, as well as increased utilisation of equipment and assets are firmly established.

Marketing

In the marketing area, Holden's strategic direction at the time of the 1996 review was to market a full range of GM vehicles. The intent behind this direction was to overcome the negative experiences associated with product badging during the late 1980s and early 1990s. It also sought to overcome the increasing trend at

that time for Holden to be viewed as a single car line company – the Commodore car company.

Market coverage by Holden has improved substantially since the 1996 review, through the successful policy of selling attractive European GM products under the Holden brand. This has complemented the strategy of moving the Commodore "up market" when the VT series was introduced in 1997. As a result of these moves the strength of the Holden brand has grown significantly and has allowed Holden to increasingly position the company's products at the premium end of the segments in which at least some of the Holden products compete. Maintaining and enhancing this valuable brand position will be a critical success factor for Holden in the years ahead.

Post 2005: Vision for the Industry

In formulating its vision for the industry, post-2005 Holden has taken into account the developments that are taking place in our immediate business environment, as well as the broader policy framework. All of these factors will have an impact on the industry, not only in the decade to 2010, but also in the decades beyond. For this reason, Holden has emphasised the importance of the review taking a long term perspective.

In terms of technological change alone, the automotive industry is on the brink of a major shift as we make the transition from internal combustion engines to fuel cells. Coupled with this is the on-going evolution of emissions standards, fuel standards and fuel consumption targets. At a broader level again, the policy frameworks that determine environmental performance standards and trade policy directions also have an impact.

Overall, the automotive industry is on the brink of a major shift in its fundamental posture. In the past the main driver of success was intense domestic competition, primarily consisting of price wars, especially in fleet markets. The future lies in another direction, however. The danger now is lack of adequate production volume, as it has always been, but the solution is different. Import penetration must be rolled back by domestic manufacturers entering new market segments in Australia, and even more importantly, Australian exports must be greatly expanded by producing relevant, innovative and exciting products for sophisticated and growing export markets. The solution to these twin requirements involves the industry becoming substantially more R&D intensive even than its current level, which is very high by manufacturing standards generally. Australian cars no longer have an opportunity to lag world technological benchmarks in order to reduce costs; increasingly they must create new world benchmarks in their own special fields, in order to capture the attention of jaded consumers in the world's largest markets.

Post 2005: Holden's Strategic Business Plan

Holden's business strategy, contained in the company's Strategic Business Plan remains focussed on engineering, manufacturing and marketing as the key drivers of business performance:

- In the product area, Holden's strategic direction is to offer a full range of exciting products of outstanding value.

- In the area of growth, we aim to achieve scale economies by growth of total business volume.

- In terms of brand, our key objective is to strengthen brand premium through product and distribution structure.

Supporting each of these key elements of the plan are 'pillars' relating to cost and value, quality, information technology and people.

Translating the strategic direction and the various elements of the Strategic Business Plan into our company's direction for the future it is clear that understanding and interpreting domestic and export markets in a way that maximises Holden's strategic opportunity as a global niche player will be critical. In this regard, Holden has staked a claim to the global market opportunities for large rear wheel drive passenger motor vehicles, and will use this position to maximise sales of the Commodore and Statesman range of vehicles and their variants. In the context of a gradually shrinking Australian market for larger conventional sedans, the vehicle platform must spin off a number of additional "variants" in future years. To achieve this the platform must be designed to be highly flexible and able to utilise various common elements of the vehicle structure through a modular approach.

In terms of the Brand strategy, key areas of focus include ensuring complete coverage of the market in terms of platforms, body styles, models and key features in addition to a whole of life customer focus, a realigned and committed distribution network and a best-in-class communication strategy.

Finally, the strategic direction for growth requires an expanded share of the Australian domestic market through broadening the range, together with expanded export volume. This hinges upon obtaining a balance between domestic and export markets which will limit Holden's vulnerability to economic cycles and seasonal fluctuations, optimise the viability of individual product variants and exploit the available natural currency hedges.

The key to achieving success in all of these areas lies in Holden's success in capitalising on its place within the GM organisation.

Relationship with Government: Future Support

Applying Holden's strategic direction to the issue of the level and form of Government support required post-2005 must take into account the following significant issues:

- The industry remains in a transition phase. Substantial performance improvements have occurred in the industry as a whole and these are now taking shape in the form of improved export performance and productivity. At the same time, the overriding crucial requirement is for the Australian subsidiaries to carve out sustainable niches for themselves in their parent companies' global business strategies. This can only be achieved through competitive success; it will not be given as a favour.

- Probably all of the global manufacturers have excess capacity and most acknowledge a need to reduce their number of vehicle platforms. In this context a unique and inherently low volume Australian platform is at least as likely to be seen as a target for rationalisation, as it is to be viewed as a business opportunity. At the same time it is only by having a unique series of product offerings that a viable business strategy can emerge for Australian operations. To synthesise this situation into a successful business strategy it is imperative that the Australian operation carefully tailors its product range to complement that of its parent without substantial overlaps or conflicts. Important progress is being made toward this goal but there are further gains to be made.

- While profitability in parts of the industry has certainly improved from the earlier decades, even in the most successful areas the level of profitability that is being achieved is a long way from world class when current government assistance and the impact of tariffs is removed. The long-term goal of the industry must be to operate without sector-specific assistance, but in an environment that supports the elements necessary for ongoing and sustainable growth.

- Regardless of the form and extent of Government support for the industry, it must take into account the need for the Government policy environment itself to be internationally competitive. It is well accepted that developed and developing countries worldwide value ongoing investment in the automotive industry. If Australia is to be viewed by international investors as a competitive location for the industry, it must be seen as a country that supports its car industry. In this context, it will be vital that the decisions from the current review send the correct messages.

- The four vehicle manufacturers have been at the forefront of diffusing the lean manufacturing knowledge and know-how technologies in Australia, which have been critical to their productivity gains. Initially these innovations in manufacturing process and organisation were disseminated to the component manufacturers but subsequently they have flowed beyond the automotive industries.

In terms of the specific form of Government assistance, Holden strongly supports the need for an ACIS scheme to remain in place post-2005. However, the form of the post-2005 ACIS will be substantially different from the current ACIS if it is to promote the productivity growth, business innovation and export expansion that underpin national living standards. As outlined in some detail above, Holden's ability to contribute to such

outcomes hinges primarily on its ability to fill global niche markets. The way Holden has been able to do this to date has related to our ability to extend our market coverage through a highly flexible product and manufacturing strategy, build brand premium on the basis of product strength, and do so at a cost and within timeframes competitive with, or better than, world's best practice.

To continue to do this will require that effective and efficient Government support be available for the early research and development and associated investment required to constantly enhance and update the product offering and thereby our market coverage. Increasingly, the hurdles that need to be overcome to achieve this are becoming higher. Consumer preferences and market demands are changing far more rapidly than they did historically, while the pace of technological change is also far more rapid than at any other period in manufacturing history.

Access Economics Model: The National Economic Impact of an Expansion in Automotive Research & Development

In order to test the validity of our view that enhanced support for research and development will provide the best opportunity for the industry in the next phase of its growth path, Holden commissioned Access Economics to undertake an assessment of the national economic benefit of switching some of the forms of assistance under ACIS. The analysis assesses the implications of shifting the production subsidy part of ACIS assistance to expenditure on automotive R&D.[1]

The example that Holden used to support the Access analysis was additional R&D spending on the development of a new vehicle in the four-wheel drive segment of the domestic market. At present all the sales in this market segment are imported vehicles, which only attract the general tariff rate of 5 per cent. The new vehicle would be based on Holden's existing domestic vehicle platform. The proposed R&D program would focus on developing a flexible production variant, which could easily incorporate the modifications that would be required for different export markets.

On the basis of these assumptions and the data provided by Holden, the four-wheel drive project was analysed to estimate its impacts on foreign direct investment, income tax payments and dividends remitted overseas by Holden. The following conclusion was reached:

By 2012 GDP will be about $1.2 billion higher in real terms than it would have otherwise been and there would be around 6,800 additional jobs. The change in the form of ACIS assistance would increase economic welfare, as measured by consumption and wealth. At a real discount rate of 5 per cent, Access Economics estimated the present value of the changes in economic welfare at $4.0 billion.

Access Economics summary report is attached as Annexure A.

[1] This does not mean there would be no form of support for vehicle production, because of another aspect of Holden's proposal for future assistance arrangements. (See Part B of this submission.) For reasons associated with equality of assistance rates between car and component producers, we believe it is necessary to retain the existing uncapped Duty Free Allowance (DFA) and apply it equally to export production. This concept obviates the need for specific production assistance within ACIS itself.

The Way Ahead: Policy Directions

Holden believes that a focus on research and development and associated investment is essential for two reasons. First it will facilitate the achievement of an internationally competitive and globally integrated Australian automotive manufacturing sector. Second the rest of the Australian economy will benefit from the dissemination of the knowledge and know-how generated by automotive research and development.

To achieve economies of scale the industry must reach a "critical mass" which is most likely to be achieved through additional exports and import replacement. Enhanced support for research and development will be a key enabler in allowing Holden and the industry to progress this strategy. However, the focus of this new form of support must encourage greater innovation in products and processes, rather than merely assisting routine model replacement through the normal cycle.

Holden believes that there are a number of other important policy options that must be addressed in this review of assistance arrangements for the automotive industry post 2005. A summary of Holden's recommendations for future policy directions is provided below:

- Holden's position is that the level of automotive tariff that is required beyond 2005 for a viable automotive manufacturing sector is 10%. Holden would be concerned by any further reductions below 10 per cent in the period from 2005 to 2009. It is clear that although parts of the industry have made the required adjustments, this process is not yet complete. To ensure a viable automotive industry, future policy must support the completion of this transition before further reductions in tariff can be considered. Future automotive tariff levels for 2010 and beyond should only be set when enhanced knowledge of the intentions of others in relation to APEC commitments is available.

- Holden believes that there must be a continuation of ACIS assistance beyond 2005 to allow completion of the required adjustments in the industry. However, enhancements are required to provide certainty and equity as between the various participants in the scheme.

- A competitive policy environment for automotive industry investment is necessary for ongoing sustainability. Due to the relatively small scale of the Australian automotive industry in global terms, the strategy for future success involves becoming a competitive, quality supplier of products into niche markets. To do this we will need policies that encourage greater focus on innovation in both products and processes, especially over the longer term. Post-2005 assistance should provide enhanced support for research and development offset by a reduced emphasis on production benefits. Support should provide increasing rewards for high levels of innovation and technical risk. Capital investment should be supported preferentially towards increases in capacity and improvements in productivity above a "like-for-like" replacement

- Improved market access, particularly to emerging markets in our region and to the United States, is of primary importance to enable globalisation to be an opportunity rather than a threat to the Australian industry

- Competitive taxation arrangements are needed to enable the industry to succeed with minimal levels of government support. Many reforms will be required over time, but the most urgent are the removal of payroll tax for vehicle and component production, and the elimination of stamp duty on motor vehicle sales

- A new paradigm must be sought to enable innovative and broadly beneficial solutions to energy, greenhouse, safety and general environmental issues. This is only likely to be accomplished in the context of a partnership between the stakeholders aimed at synthesising better solutions than past approaches have provided.

The Industry's Future

In a world over-supplied with automobiles, and with a saturated and slow-growing domestic market, Australia's strategic opportunity is to do something different. That something is for each manufacturer to produce a coherent family of niche vehicles to sell on world markets. To succeed in this mission it will be necessary for the vehicles to remain differentiated and relevant over time – which requires continuous innovation.

In short, the industry can succeed by pursuing the world market for large low-priced vehicles of an exciting and innovative character. The world demand for such vehicles is a very small share of the total market – but this is an attraction rather than a problem, since it makes the opportunity too small to attract a profusion of overseas competitors.

With Australian domestic volume as a starting point, and provided a suitable range of product variants is created, the size of the opportunity is sufficient for financial viability. It has traditionally been thought that the ability to exist in the world of niche products is confined to premium-priced products, because of the inescapable laws of volume economics. Australia must partly escape this paradigm – not by foregoing premium positioning completely – but by aiming just above the mass market rather than far above it. The window of opportunity is small. Success requires continual product change, ongoing innovation, and clever design of very different products on a very standard platform.

The proposed approach builds on the Australian car industry's established strengths in low volume economics, development of large low-cost cars, spinning off multiple vehicle variants from a single platform, and creating exciting products that offer a superior driving experience to an identifiable group of buyers. Holden's recent history shows that this formula has the potential to complement the traditional strengths of larger scale automotive specialists in other countries. This complementarity occurs because of globalisation trends in the world industry. Globalisation is causing the major car makers to rationalise their platforms – which improves their business economics but inevitably leaves a number of very small gaps in their product line-ups.

Filling these niches is a strategic opportunity for the Australian automobile industry. By choosing this direction, it is possible to add value to the corporate shareholders in two ways. First, it relieves the larger manufacturing centres of unprofitable involvement in low volume activity. Second, it allows Australian manufacturers to operate very viable specialised businesses providing the supplementary products that are needed in the larger markets to keep the parent corporation from losing sales and customers when they rationalise their own product lines.

It is Holden's view not only that this can be done, but that we have a clear vision of how to do it.

PART B

Holden's Formal Response to Questions

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Industry Information and Performance

Market Trends

Q1. What are the main factors likely to influence demand for motor vehicles in Australia over the next decade? What impact has motor vehicle affordability had on the level and composition of demand in recent years? What has been the effect of exchange rate movements on imported vehicle prices? Have importers passed on in full the cost increases associated with the depreciation of the Australian dollar?

Holden has enjoyed much success in recent years, however, this has been largely at the expense of other local manufacturers in particular, Ford and Mitsubishi. The upswing in the Australian economy in the first half of the decade is likely to drive major growth in the local vehicle market. The economy is expected to grow at an average rate of 4.0% during the first half of 2002, fueled by rising business investment and non-residential construction activities. Inflation is forecasted to remain low, and while interests rates will rise in the short term, they are unlikely to cause a major impact in the current level of consumer spending.

The exchange rate has increasingly become an important consideration in local manufacturers' costs, as barrier protection has declined and increased industry sensitivity to international competitiveness issues. A weak A$ has two opposing effects on local manufacturers:

- import costs are increased due to the lower international purchasing power of the A$;
- selling prices tend to rise due to decreasing competition from finished product importers and from foreign competitors in export markets.

The net effect is normally more profitable operation when the A$ is weak. It is Holden's expectation that over the medium and long term the A$ will usually exceed US 60 cents in value. This implies that profitability of local manufacture will come under substantial pressure in coming years due to A$ strengthening. Indeed this effect is already emerging over recent months.

Fuel costs, despite occasional price "spikes" in recent times, have not affected vehicle sales. There is a general understanding that vehicles today are more efficient and overall fleet management companies closely monitor vehicle-running costs. However, a sustained increase in petrol prices above the "mental" price point of $1/litre, may affect the demand for large vehicles with 6 and 8 cylinder engines over the longer term.
The fleet market in Australia is a key volume segment. The business sub-segment of the fleet market currently represents 36% of total vehicle sales, of which local manufacturers have a share of approximately 65%. Taxation changes could dramatically affect vehicle fleet sales by reducing the attractiveness of salary packaging.

Another influential factor in the marketplace is the growing strength of the fleet management companies and the likely impact of the resulting trend towards a reduction in vehicle turnover times from a current average of 3 years down to potentially 2 years. In contrast, there is an emerging trend in the fleet government segment representing 12% of the total market towards lengthening vehicle turnover, from the current 1.5/2 years to 3 years.

Since 1995, the motor vehicle has become more affordable as car prices remained static, and real incomes (wages) continued to rise at a rate higher than the CPI. Consumers have also benefited from lower interest rates and have been offered a wider range of affordable cars, as new entrants from Korea entered the marketplace.
As a result, the Australian vehicle market has grown substantially over the period of 1995 to 2001. The market has grown from a total size of 642,557 units to 772,681 units during those six years, posting an average growth rate of 3.3% during that time. In 1998, the market peaked with an all time record sales of 807,669 units.

In terms of demand, the light 4x4 wagon and lower medium passenger are two of the segments that have enjoyed significant growth in the past 5 years. Low prices, more features and increased lifestyle appeal have attracted consumers and boosted sales in these segments.

Variations in the exchange rate have been largely passed through to vehicle prices. However, companies tend to be quicker to pass on price reductions when the exchange rate improves, but are slower to implement price rises when rates worsen because of the immediate impact of reduced sales.

Q.2 Over the next 20 years, what changes might be expected in domestic demand for the type of vehicles currently assembled in Australia? What changes are likely in the relevant export markets?

In the domestic market it is likely that consumer preference for 4WD products in terms of their versatility and sporty image will drive demand for locally produced crossover and AWD products. Overall, consumer preference for recreational 4WD products will continue to fuel growth in this segment of the market.

Holden's short-term forecast suggests that the growth rate in the overall light commercial market (driven by recreational vehicles) will exceed that of the passenger segment through until 2006 / 2007, at which point growth will flatten out consistently between the segments.

There are a number of factors that could impact the demand for various types of vehicles in export markets that are relevant to Holden. In particular, when considering future scenarios for export markets in the global context, caution is required. In the event that the US war on terrorism expands, a reduced demand for vehicles in a number of important markets will be inevitable.

In addition lifestyle trends in developing countries will drive the demand for certain types of vehicles. Worldwide, people are constantly aspiring to better lifestyles and even those with low incomes can achieve some of these aspirations, as the global market for goods

and services expands. By 2005, over half the world's families will be part of the world's urban economies and will be exposed to modern brands, products and services available everywhere in the world, even if they are not always able to afford them. This will ultimately drive the trend towards an increase in the level of car buying worldwide. However, this may not equate to increasing demand for large cars of the type produced in Australia. The large car segments are shrinking around the world due to various factors ranging from the cost of a parking space to fuel costs (particularly in Europe) and environmental considerations.

Other factors, which impact demand for Australian produced vehicles in export markets, relate to market access issues, and are covered in more detail later in this submission (see questions 12 and 30).

Global Integration

Q.3 What is Australia's role in a globalised automotive assembly and component manufacturing industry? How does this affect regional market allocations (such as access to export markets) and investment decisions? Is further global integration likely and what form will this take? How is Australia's role likely to change in the future?

Australia has four unusual features that shape the nature of its opportunity in the global automotive industry:

1. It is a medium-sized market in a remote location. As developing economies progress further, especially in Asia, Australia's automotive market will lose ground relatively and become a small-sized market in a remote location.

2. It has favourable domestic economic circumstances in terms of political stability, an educated workforce, and strong industrial infrastructure.

3. It has a volatile currency. When this is placed in the context of a capital intensive global industry with considerable capability to redirect product flows, together with long lead times and time-driven rather than volume driven product obsolescence, the result is very variable financial results from an Australian automotive producer. This, in a world that seeks to position auto companies as stable "blue chip" profit earners, is troublesome.

4. It has a large passenger car segment - consistently over 30 per cent of total passenger sales – by far the highest share in the world for this type of vehicle.

The strategic solution that Holden has synthesised to this unique challenge, is as follows:

- The most difficult issue to resolve is the capture of an economic manufacturing volume for an Australian plant. In the context of the high and recurrent capital investment required for car production, this means an annual manufacturing volume of at least 180,000 units based on a single platform.

- Due to its remote location, Australia is not an economically desirable production base for an automotive platform that is also manufactured anywhere else in the world. The reason is that duplicated production would create internal competition with other source plants, thus driving low unit profits and a need for very high manufacturing volumes and low transport costs. The small size of Australia's domestic market would lead to a need for a large proportion of output to be exported, resulting in a cost disadvantage compared with a plant making the same product closer to the large markets. This forces the conclusion that the only platforms that can profitably be made in Australia, are unique Australian platforms.

- To make a unique platform with an annual volume as low as 180,000 requires that the unit profitability of the product be substantial. This in turn requires that in world terms, the vehicle must be a niche product. (If it were a mainstream world product, the prevailing global oversupply would lead to low unit profitability.)

- International competition is intense, driven in part by extensive global excess capacity in the industry, and in part by the smallness of the number of global automotive companies. As a result, for viability it is necessary to achieve *domestic* sales in Australia of well over 100,000 units from a single platform. The only segment, in which this is possible, is the large popularly priced rear wheel drive segment.

- The large low-priced rear drive segment is a niche market in every country in the world except two: Australia and Saudi Arabia. However, it nevertheless presents a significant annual volume opportunity in a number of the world's large markets (e.g. the US, Europe and Japan). Export sales of in excess of 50,000 units per year are eminently possible from an Australian production base. Conversely, the location of large, low-priced, rear drive passenger car production in any country except Australia is impeded by the small domestic opportunity in each such market. Hence, this product type is probably the only passenger vehicle for which world production would logically be located in Australia.

- Because exports of the chosen vehicle type are aimed at niche markets in all countries except Saudi Arabia, substantial profit margins are achievable on average from export production. This is important in the context of volatile Australian exchange rates, which cause unit margins to be quite variable. Note that in the auto industry it is not feasible to move quickly in and out of markets in line with exchange rate variations: brand presence involves long term investments, and the amortisation of high capital costs requires steady production volumes. (It is, however, possible to vary the local sales volume in each market quite quickly, when faced with surplus stock or production capacity.)

The answers to the Commission's questions on global integration, flow clearly from the preceding synthesis:

- With regard to car manufacturers, Australia's role is as a domestic and export source of a family of large rear drive products based on a single vehicle platform. Because such a narrow product range cannot sustain an international brand, it is necessary that export vehicles will bear global brands owned by the global parent, and will be distributed through the regular channels controlled by that parent. Conversely, to

maintain a brand in Australia, the manufacturer must import a range of complementary products from the global parent and distribute them in Australia.

- With regard to component manufacturers, it is not feasible to maintain a viable business just servicing the local car manufacturers. Minimum economic production volumes for most components are higher than for cars, and a locally-focused strategy thus cannot provide a world-class cost structure. The solution is a choice between export-focused production, and export production as a supplement to serving the local car companies. Which of these is chosen depends on the nature of the type of component being produced. The central intent of this submission relates to the viability of the car industry and hence the subject of component manufacturing strategy will not be pursued further.

- So far as market allocation issues are concerned, it is important to recognise the global car companies as rational players in a very complex game. The role available to Australian car manufacturers is one of niche production and if this role is accepted, the market allocation process becomes amenable to win/win solutions. In essence, so long as the Australian producer has a unique, attractive product that the large markets desire only in modest volumes (less than 20,000 per year of each version), local production in the export markets is unlikely to be viable. Under those conditions importation is likely so the Australian producer has a market as long as the product is fresh, appealing, and affordable. Generally, this process is only sustainable if the Australian products continue to innovate and evolve at a rapid rate.

- Global investment decisions, like market allocation decisions, are rational. Where multiple-sourcing of a global vehicle platform is involved, Australia figures poorly. Production allocation decisions are cost-driven and the smallness of our local market leads to a requirement for high export ratios and therefore high logistical cost penalties. On the other hand, if Australia is the sole global source of a series of desirable niche products and if the Australian operation is delivering them at appealing prices whilst making an attractive profit, then investment funds are self-generated by the Australian operation. The global corporation will then favourably consider redeploying local funds on additional profitable Australian projects.

- The pressure for global integration of the auto industry is mainly due to excess capacity in the international industry. Excess capacity causes low profitability. Industry consolidation is a classical means by which capacity can be removed. Circumstances, including labour market issues, in the US and EU make the removal of capacity there difficult even in the context of industry consolidation. However, the market exhibits a trend toward requiring a wider range of lower-volume products. To achieve low costs under these conditions is likely to require more flexible production processes and labour arrangements than in prior times. Successful product innovation, in what will remain a buyers' market, will be a key driver of success. This implies that the ultra-standardised commodity-style production that seemed to be foreshadowed some years ago in the MIT studies of the industry, is not the most likely outcome. It seems more probable that smaller, more adaptable plants making a constantly changing wider range of products, will be a more profitable formula. An emerging key success factor is the ability to innovate at low cost – which in turn drives a need for changed engineering design and product validation processes that can proceed more quickly and more cheaply.

- Holden's strategic direction is based on the concept of widening our range of product variants based on our single platform. We expect the individual product variants to evolve and change far more quickly than in the past. This will require continuous product innovation, with associated implications for the structure of our resources. The result of this should be that Holden can provide overseas markets with an ongoing series of new products that enter, or even create, new market niches. Most likely "old" products will be retiring almost as quickly as new ones are emerging, resulting in a dynamic product portfolio.

Q.4 What are the implications of a highly globalised industry for the location of R&D activity? Is sufficient industry R&D undertaken in Australia? How much relevant new technology is essentially 'home grown' rather than imported from overseas? How much technology is exported?

With a relatively small production volume and correspondingly small capital resources, Holden is arguably one of the few viable manufacturers of its size in the world. One of Holden's strengths is its ability to produce a range of variants from one platform enabling entry into a number of market segments. Using this strategy, Holden is able to maintain its domestic market share, whilst also being able to build export markets for its niche products. These markets are typically not supplied by the domestic manufacturers in these countries largely due to the relatively low volumes that they represent.

Holden's strategy to produce a number of variants from one platform must be supported through innovative design and engineering. Innovation is the essential means by which Holden can compete against larger manufacturers with greater resources, adapt more quickly to market changes and capitalise on the opportunities that change presents. Innovation requires investment in research and development, and the use of external sources of information and knowledge. Some Australian suppliers are innovative, and can provide inspiration for new approaches. The CSIRO, universities and Cooperative Research Centres (CRCs) are also potential sources of innovative ideas. The collection of knowledge from all of these sources is an important input to the innovation process.

An Australian based automotive industry needs Australian R&D activity to be successful against resource-rich multinational competitors, and against government supported, low labour cost companies from the emerging industrial nations. A significant proportion of the new technology required for success must be developed in Australia to specifically support the small size of Australian industries. Holden's focus on innovation in design and engineering to support its future strategy for volume expansion will increase the demands, not only on its own resources, but within the local supplier base. Some of Australia's industry is technically inadequately prepared to compete in the global market place. As a result, future policy settings for the industry must consider support for the focus that is required on innovation as a means of ensuring ongoing sustainability of the industry.

Australian based automotive companies are increasingly able to export their design and engineering services both to companies within their parent organisations and to other external companies. Holden is competing on the global stage to maintain its position as

a competitive manufacturer and supplier of R&D capability within the GM organisation. Holden is considered to have world-class expertise that is being sourced throughout the world.

For GM, a globalised industry necessitates local R&D activity within design centres around the world. Holden is one of four regional engineering centres of excellence located within GM's operations worldwide. The technologies developed in the other GM engineering centres and at our multinational competitors provide Holden with a useful source of knowledge, but frequently these are not practical to implement within the Australian vehicle. Holden utilises Australian R&D activity to achieve an innovative vehicle design to compete in the Australian market and for export markets. Holden's product development strategy for "all-new" vehicles is to take a corporate platform (that provides the closest match to the unique market requirements for a large rear-wheel drive vehicle) and selectively use the best aspects of that corporate platform that meet Holden's needs. Selectively using aspects of the corporate platform allows Holden to keep costs down while ensuring that the technology used in Australian vehicles remains contemporary. However, even those aspects of the vehicle design that are incorporated from the corporate platform are substantially changed. For example, in the current Commodore, the only part that remains unchanged from the original corporate platform design are the interior grab-handles.

In addition to maintaining a focus on local design efforts, Holden supports a number of countries in the region with expert engineering research and design capabilities thereby producing a strong support base for GM's growth strategy in the Asia-Pacific region. This provides Holden with the benefits of greater flexibility to support its business having a large pool of engineers to draw from and the opportunity to develop these resources. Such activity not only contributes significant export earnings to Holden, but also maintains Holden's (and Australia's) place within the global GM R&D community.

Holden believes that focus on R&D is essential for the future sustainability of the industry. To achieve economies of scale the industry must increase volumes through increasing exports and import replacement. Support for R&D is a key enabler in allowing Holden and the industry to progress this strategy. Our proposal for further industry assistance is strongly focused on support for R&D and associated investment. The focus, however, must encourage greater innovation in products and processes and it is for this reason that we propose a graduated scheme based on the level of innovation.

Holden's future policy recommendations for industry assistance are expanded in detail later in this submission (see "ACIS Effectiveness and Future Assistance Arrangements").

Linkages to the Rest of the Economy

Q.5 What are the key linkages between the various sectors of automotive manufacturing and with the rest of the economy?

There are basically two sets of linkages between the various sectors of domestic automotive manufacturing and the rest of the Australian economy. The first of these are their trade links with other industries and with households. The second set of links involves their impacts on third parties that their activities generate.

The trade links

The trade links are the means by which the automotive industries are able to purchase the inputs that they need to produce their output of cars and components that they sell back to the rest of the economy. The linkages in question involve a broad range of markets, which include the purchase of the following goods and services:

- the labour employed by the automotive industries;
- business services such as legal, accounting and IT;
- engineering design services;
- equipment and tools purchased from the machine tool industries;
- maintenance services for plant & equipment;
- iron, steel and aluminium supplied by the metals industries;
- plastics, paint and rubber from the petrochemical industries;
- cloth and leather supplied by the textile industries;
- transport and communications; and
- utilities such as energy, water and waste disposal.

The impact of the automotive industries on the output of the input supplying industries means that they, in turn, draw on inputs both from the labour market and from the various industries that supply them with plant, equipment and materials.

As far as the downstream markets linked to the automotive industries are concerned, these links involve the distribution and sale of new motor vehicles, as well as the distribution and sale of components for the after market and the maintenance and repair of used vehicles. These markets service the final consumption of these products by households and their intermediate use in the rest of the economy as capital equipment. Given the unit cost, technical complexity and ubiquity of the modern automobile, the trade linkages between the domestic automotive industries and the rest of the Australian economy are both deep and broad. In the case of the automotive industries, the extent and the length of these linkages are far greater than those of most other consumer products. Moreover, these linkages extend well beyond the markets that are immediately upstream and downstream of the automotive manufacturing industries.

The terms of the various transactions that link these successive production stages are dictated by the strength of competition and the alternative uses of the resources employed at each stage. Given the reasonable presumption of well functioning markets at each stage, the economic welfare of the community as a whole could not be improved by any alternative uses of the resources in question. Indeed even where any of these markets do not function particularly well, the key issue for public policy is whether government can expect to be able to intervene in a way that will redirect the resources in question to the benefit of the community as a whole.

The spillover links

The other set of linkages between the domestic automotive industries and the rest of the Australian economy concern the generation of 'spillovers'. These are the third party impacts that are associated with the activities of the industries in question. In technical parlance the costs and benefits of an activity may 'spillover' to those who were not a party to the transaction that gave rise to the activity in question.

Spillovers can be important for public policy where their costs or benefits are not, or cannot be, 'internalised' into the prices associated with the activity that generates them. This possibility opens the way for government to internalise the relevant costs or benefits, where there is a net benefit from doing so. In many cases this requires government to do no more than reduce the transactions costs that prevent the relevant market participants from negotiating mutually acceptable solutions.

There are many different types of spillovers. One of the most important types concerns the knowledge and know-how that an industry can generate and disseminate to other industries in the economy. These are pure spillovers. The Industry Commission has acknowledged that the intrinsic nature of such industrial knowledge and know-how means that the benefits from its discovery are unable to be appropriated by the discoverer but the information in question is able to be disseminated widely at little or no cost to the disseminator.[2]

Another type of spillover that is relevant to the automotive industries can occur in the areas of health, safety and the environment. In those areas, there can be positive or negative impacts on third parties generated by the activities of the automotive industries or the products they sell.

In the case of the automotive industries, there are a number of beneficial spillovers that are associated with the product- and process-related technological and organisational innovations that the global industries have initiated.

Over the past 100 years, the world automotive industries have been at the forefront of innovation in product development and manufacturing process. Twice the global automotive industries have led manufacturing to a new paradigm for design and production management — shifting from craft production to mass production in the 1920s and from mass production to 'lean production' in the 1980s.[3]

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[2] Industry Commission, *Research and Development, Vol. 1: The Report*, Report No. 44, Australian Government Publishing Service, Canberra, p. 10.

[3] See Womack, J, Jones, DT and Roos, D (1990), *The Machine that Changed the World*, Rawson Associates, New York and Fine, C and Raff, D (2001b, forthcoming), 'Internet-driven Innovation and Economic Performance in the

The lean production revolution in the automotive sector is in the process of being transmitted to other industries world-wide. The dissemination of these innovations into completely new areas of business has reached the stage where notions of 'lean thinking', the 'lean enterprise' and 'lean networks' are now clearly evident and the principles involved are being seriously proposed for application to business as diverse as long-distance travel, medical care, food production and distribution, construction and short-range personal mobility.[4]

Since the late-1980s, the four local vehicle assemblers have been at the forefront of diffusing lean manufacturing technologies within Australia. The local assemblers have also been at the forefront of the diffusion of digital (or numerically-controlled) process equipment and robotics, automation of production control processes, concurrent product engineering using electronic data interchange, and just-in-time inventory management. Initially these innovations in manufacturing process and organisation were disseminated by the local vehicle assemblers to component manufacturers in Australia. However, the dissemination of these innovations to local automotive component manufacturing has made it easier for these innovations to be disseminated to other industries in the economy.

To date the main spillovers to the non-automotive industries in Australia have occurred in the following areas:

- *product development* (for example spillovers related to enhanced vehicle produceability, quality/reliability, concurrent engineering and electronic data interchange in product development);
- *manufacturing system* (for example spillovers related to increased flexibility, leanness and agility of production);
- *procurement and supply chain management* (for example spillovers associated with total inventory management techniques, supplier network management); and
- *distribution channel management* (for example spillovers associated with organisational innovation in distribution systems).

Many of these process and organisational innovations have been readily adopted by other manufacturing industries in Australia, especially those that are involved in the integration of complex products using equally complex supply chains and networks — for example defence systems.

American Automotive Industry', in *The Economic Payoff from the Internet Revolution*, The Brookings Institution, Washington DC.

[4] Womack, James and Jones, Daniel (1996), *Lean Thinking: Banish Waste and Create Wealth in Your Corporation*, Simon & Schustewr, New York.

Industry Performance and Investment

Q.6 How are the various sectors of the industry performing in terms of output, productivity, profitability, return on investment, prices and affordability, quality, investment, research and development, skills, work practices and training, achieving scale economies and technology transfer? How does this compare with international experience? What investments have been made by the industry in Australian manufacturing over the past five years?

The Australian automotive industry provides a number of direct benefits to the Australian economy. Exports of vehicles have nearly doubled in the past five years and are now approaching $5 billion a year. To provide some context, Australia's automotive industry exports are of higher value than wool, wheat or beef. The industry is also increasingly important in terms of the country's GDP output (1%) and represents seven per cent of Australia's entire manufacturing turnover. Collectively, it is one of Australia's largest employers and one of its largest economic contributors.

Output

The output from the industry, despite fluctuations from year to year, has been trending upwards over the last 5 years and reached 360,000 vehicles in 2000. In addition, the components sector had sales reaching almost $6.45 billion in 2000.[5]

Holden's vehicle manufacturing plant in South Australia produced a total of 132,390 vehicles during 2001 representing a rate of 594 cars per day, which was slightly lower than total production during 2000 but higher on a per-day basis, reflecting days lost to industrial disputes at suppliers. Holden Engine Operations in Victoria produced 154,478 four-cylinder and 100,830 six-cylinder engines for total production of 255,308 equalling 1141 engines a day.

Productivity

Productivity levels, as measured by vehicles produced per employee, increased from 10.8 vehicles in 1991 to 16.3 vehicles per employee in 1999.[6]

In 1997, the daily production rate at Holden's vehicle assembly facility was 480 cars per day. Since that time, Holden has invested around A$43million in the implementation of a number of initiatives that have now increased the production rate to 620 cars per day.

[5] The Allen Consulting Group and Deloitte Touche Tohmatsu, Report to FCAI and FAPM - "The Automotive Industry's contribution to the Australian Economy: A Modern Perspective", 2002.

[6] The Allen Consulting Group and Deloitte Touche Tohmatsu, Report to FCAI and FAPM - "The Automotive Industry's contribution to the Australian Economy: A Modern Perspective", 2002.

Holden's efforts to increase production efficiency, capital effectiveness and product quality have also driven significant advances in the level of automation within its facilities. Holden's main body shop runs at automation levels of 80 percent, while the paint facility runs at 100% automation. When Holden's relatively small volumes are considered with respect to typical world production volumes, the level of automation that has been attained is considered to be in line with world best practices.

The concept of lean manufacturing is one which the automotive industry is continuing to adopt in order to increase productivity and reduce costs. Automotive manufacturers and suppliers are becoming smarter about the way they are doing business together to support the drive towards lean manufacturing and as a result different concepts are emerging. One natural fit is the concept of a business park where suppliers are encouraged to base themselves nearer to their major clients. Examples of this concept are emerging in the Australian automotive industry and can be seen in South Australia at the Edinburgh Gardens Business Park at the rear of Holden's vehicle manufacturing facilities and the National Business Park near Ford's assembly plant in Victoria. The business park concept allows manufacturers to reduce their supply chain costs by cutting storage areas on-site, reducing inventory levels, achieving more regular deliveries to the point of fitment and achieving greater line sequencing.

Prices and Affordability

The productivity growth that has been seen in the industry has led to a real increase in the affordability of vehicles, as the CPI for motor vehicles has declined by 20% since 1996, while average weekly earnings have increased by 15%.[7] However, even though Australia has a very competitively priced vehicle market, the effect of Australia's low-wages drives affordability down when compared with other developed countries. A more detailed discussion of prices and affordability is provided later in this submission.

Profitability and Return on Investment

Profitability in the industry has been variable. Figure 1 shows the decline in total net income for the four vehicle manufacturers in Australia despite a 21% growth in the market between 1996 and 2000. Industry data for 2001 is not yet available, but Holden has recently reported A$285 million in net income after tax for 2001.

In 2000, the vehicle manufacturers recorded an overall positive (albeit marginal) return on net assets of 1.1%. During the same period, Holden's return on net assets was 20%.

Given the weakness in the Australian dollar, which would normally enhance local profitability due to the advantage against imports, this indicates that the necessary adjustments within the industry may not yet be completed.

[7] The Allen Consulting Group and Deloitte Touche Tohmatsu, Report to FCAI and FAPM - "The Automotive Industry's contribution to the Australian Economy: A Modern Perspective", 2002.

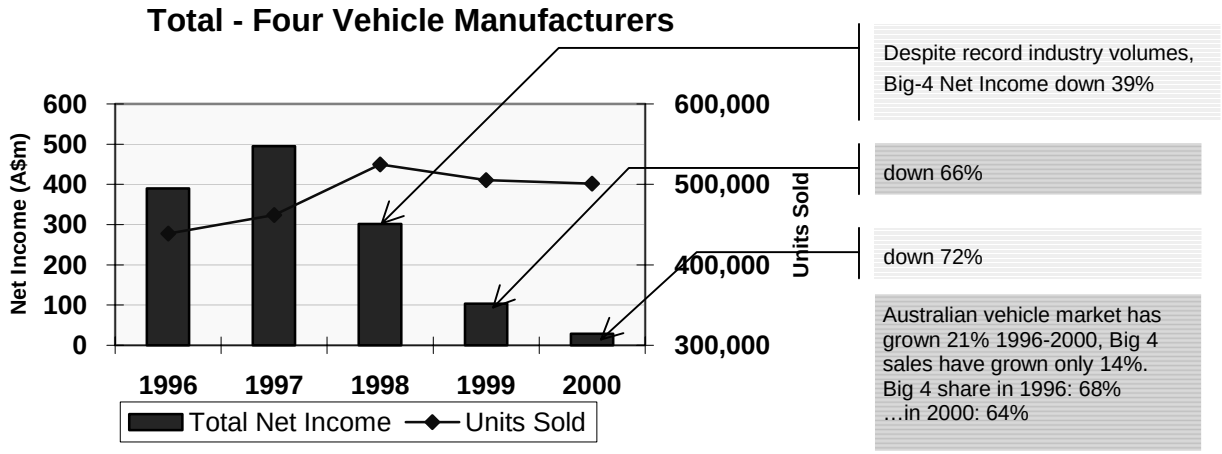

Figure 1: Total Net Income of Big 4 (Vehicle Manufacturers) 1996 – 2000

Scale Economies and Investment

The industry has invested significantly in its future in order to achieve scale economies. In data provided in a report from The Allen Consulting Group and Deloittes, new investment from the four vehicle manufacturers was over $2billion from 1996 to 1999.[8] This significant level of investment has been made in order to create a sustainable industry and it is expected that the previous levels of investment in the industry will increase to approximately $2.7billion for the period 2000 to 2003.

To achieve scale economies in the industry it is necessary to increase the volume of production whilst minimising capital exposure. Holden believes that to achieve "scale economies" for its business will require production of 180,000 vehicles by 2008. As already mentioned in this submission, this will require building a number of variants from a single platform. One of Holden's strengths is the flexibility of its manufacturing facilities. Holden is a leader in world-terms in its ability to manufacture a significant number of model variants in its plant and this capability provides us with a competitive advantage and economies of scale. Holden has taken a dynamic approach to operating its manufacturing facilities ensuring high utilisation and a low break-even point. In response to the increasing demand for our vehicles, we have implemented cost effective and innovative solutions to our capacity constraints ensuring that we minimise our capital exposure.

To support Holden's volume expansion, continuing investment in R&D and innovative manufacturing facilities is required and is a major focus of this submission. Holden is currently investing significant capital into the development of future derivatives, such as the Cross8 and AWD wagon, along with the development of an all-new vehicle platform.

[8] The Allen Consulting Group and Deloitte Touche Tohmatsu, Report to FCAI and FAPM - "The Automotive Industry's contribution to the Australian Economy: A Modern Perspective", 2002.

In addition, Holden is continuing to support its engine manufacturing capability in Australia with the investment of $386 million in a modern high feature (HF) V6 engine plant at Fishermans Bend in Victoria. The HF V6 engines will be world-class, using modern manufacturing technologies and the facility will allow Holden to build engines for its own use and for export to overseas vehicle plants.

The investment in the HF V6 manufacturing facility will drive associated investment in the automotive and other industries. In particular, investment of the order of A$100 million will be required for the proposed aluminium casting plant, which will supply the aluminium cylinder heads and engine blocks for the HF V6 engine and will have the capacity to supply other automotive manufacturers in Australia.

Research and Development

The automotive industry is a vibrant industry adopting new technology and entering R&D programs with the vigor usually associated with IT and telecommunications companies. One of the major trends in the global automotive market is the demand for vehicles incorporating higher levels of technology, which in turn is driving an increase in the level of spending on R&D.

The global automotive industry contributes US$50billion to R&D, representing 5% of the total turnover. In 1997 the US automotive industry was ranked first of 39 major industry sectors in terms of its R&D expenditure by the US National Science Foundation. In Europe, Germany's expenditure on R&D represented around 30% of the total business expenditure on R&D in 2000 an increase from 17% in 1990.[9]

Australia's response to the increasing technical demands of the industry globally, is also to build on our existing capabilities. The automotive industry in Australia is one of the largest contributors to business R&D and wider innovation capability in this country. The Australian automotive industry spends approximately $400million/annum on R&D which represents 8% of the total business R&D expenditure and is second only to the mining industry.

Holden's R&D expenditure in 2001 was $190 million, which was a 27 % increase from $149 million in 2000. The program included development costs for Holden's new Cross8 sports performance vehicle; development of Holden's all-wheel-drive platform to be used for Cross8 and other vehicles; work on forward models including the VY and VE Commodore, engine development and various safety projects to introduce new technology in future Holden vehicles.

The industry's increasing uptake of new technology is helping Australia to create advanced vehicles with global appeal and build presence in markets such as the Middle East. Advanced technology has been a major contributor to this trade success and we have seen increasing sales of vehicles built in Australia which have included technology developments in materials and systems to ensure that the vehicles can withstand the harsh climatic conditions.

[9] The Allen Consulting Group and Deloitte Touche Tohmatsu, Report to FCAI and FAPM - "The Automotive Industry's contribution to the Australian Economy: A Modern Perspective", 2002.

Holden's recent investment of $6million in a state-of-the-art Virtual Reality studio is an example of the commitment of the industry to increasing capabilities in order to remain globally competitive. This facility significantly reduces the time required for vehicle development, which reflects worldwide trends towards simultaneous automotive design, engineering and manufacturing processes.

As an outcome of the industry's focus on innovation and R&D, we are also seeing the development of stronger relationships with Universities, CRCs and the CSIRO. Holden has also been a major contributor for many years to the development of the Monash University Accident Research Centre (MUARC) by funding accident research projects, the acquisition of real world crash and injury data, and collaborative safety projects to minimize societal harm due to vehicle collisions. Holden is also working in collaboration with the CSIRO on a number of projects, an outcome of which was the ECOmmodore project.

Technology Transfer

The automotive industry is of significant importance to other sectors of the Australian manufacturing industry and has a key role in transferring product and process improvements into the supplier base.

Due to the relatively small scale of the industry in global terms, there have been increasing pressures to develop competitive advantages around productivity, flexibility and innovation in design. This has resulted in significant changes in the relationships within the industry. The vehicle manufacturers are now working more closely with the supplier base in Australia and are developing strategic partnerships. For example, Holden has worked closely with a number of suppliers including VDO Australia, Air International and Australian Arrow, to enhance and improve the quality and technology within supplied components.

The changing relationship between the vehicle manufacturers and suppliers has driven the enabling technologies, processes and skills into the supplier companies. We are now more likely to see product development work, which was once closely guarded by the vehicle manufacturers, being outsourced to Tier 1 suppliers. This relationship not only benefits the Tier 1 suppliers but the skill and technology transfer can also flow on to the Tier 2 and 3 suppliers. The result of this activity is a widening of capabilities in the industry in both R&D and engineering skills.

Quality

Increasing customer expectations has driven a response to improve in the area of product and service quality. In addition, the increasing focus of export within the automotive community has driven specific improvements in order to be competitive in these markets. Industry surveys, such as AC Nielson's New Vehicle Quality Survey, confirm the improvement in the quality levels of Australian manufactured vehicles, showing a decrease in the number of defects per 100 vehicles in the last 4 – 5 years. (Note: Information from this survey is confidential to the participants and can not be detailed in this submission.)

The automotive manufacturers in Australia have supported improvement in quality compliance through the requirement for suppliers to be IS-9000 accredited. This will influence manufacturing processes and systems, management practices and drive investment in the industry to achieve the required standards. As an example, the stringent quality requirements of the automotive industry helped bring about advances at BHP's Victorian based, Coated Steel Division in the quality of their coated steel sheet. A $160million metallic coating line was commissioned at BHP's Western Port facility in 1992, investment which was directly linked to the existence of an automotive industry in Australia. The specific features of this line and the techniques required by the production operators to produce coated steel of sufficient quality for the automotive industry have also benefitted industries such as the white-goods and other metal fabrication industries, which are also supplied with steel from this production line.

Skills and Training

In order to meet the challenges of the changing global industry, it has been necessary for the automotive industry to focus on the skills of its employees. In the Australian automotive industry, Holden depends on the financial, technological, logistic and industrial capabilities of more than 190 local companies to produce our cars. We have access to a highly educated, skilled and diverse workforce and as an example, Holden has no fewer than 62 nationalities represented among our staff.

Over the last 10 years, a step change has been required in the level of investment in training and skills development. Automotive companies have lifted spending on continual learning activities to in excess of 4% of total wages. At Holden there is a requirement for employees to spend at least 20hours per year in some form of learning activity.

The outcome of the focus that has now been placed on education and training in the industry is that the qualification profile is now changing. Between 1995 and 2000 the following increases have occurred at the four vehicle manufacturers.[10]

- 45% increase in the number of post-graduate degree holders;
- an increase of 339 persons with graduate degrees;
- a doubling of the number of employees with TAFE qualifications;
- a 33% reduction in the number of employees without post-secondary qualifications.

Although advances have been made in recent years, there are still further opportunities for improvement, particularly in the area of engineering. To provide the skills needed to succeed in a rapidly changing environment, engineering education in Australia urgently needs creative and innovative approaches to ensure that students gain knowledge of the opportunities presented by new and emerging technologies. Australia needs more than classically trained competent engineers. In order to prosper as an industrial nation, we

[10] The Allen Consulting Group and Deloitte Touche Tohmatsu, Report to FCAI and FAPM - "The Automotive Industry's contribution to the Australian Economy: A Modern Perspective", 2002.

need creative engineers able to implement innovative, high technology solutions that allow us to compete successfully in the global market.

Industry Profitability

Q.7 How do profits and returns on investment made by the industry from supplying the domestic market with locally manufactured products differ from those made on exports?

The success that we are enjoying at Holden today largely hinges from our ability to grow our manufactured volumes as a result of the development of our export program. The environment that existed in Australia in 1996-97 largely supported the decision to invest in the development of product for export markets. The EFS that existed at this time was a catalyst for the success of the business case that was developed to support an export program.

In the past the EFS provided significant incentives for exported product. Under the requirements of the WTO, these were removed and new provisions were developed under ACIS. However, the current "modulated" scheme creates a bias towards domestic production. Export volumes are subsidised under the capped production credit. Domestic production receives both the capped production subsidy and the uncapped duty free allowance (DFA), resulting in a benefit of approximately $150 more per vehicle for domestic production. The discrepancy between subsidies for domestic and export production are discussed in further detail later in this submission (see question 29).

The existence of an export program is vital to Holden's future success as it provides the critical mass needed for a sustainable business. The ability to have greater volumes over a fixed capital base provides significant economies of scale. From Holden's perspective, the business case for planned new investment must be on an incremental basis. Development of a number of export markets, with varying vehicle standards and regulations, creates significant engineering challenges and costs which must be ammortised across relatively small volumes. The risks associated with export programs are much higher than for our domestic programs and are critically dependent on volumes and exchange rates.

Profits from the sale of a Commodore SS into the domestic market as compared with sales to the Middle East, are generally comparable based on data from 2001. These results, however, can be significantly impacted by changes in currency. As noted later in this submission, in the past six years the annualised standard deviation of the daily change in the A$ exchange rate against the yen, US$ and Euro has averaged more than 10% in each case. In this environment, the profitability of exported product is variable and investment in future export programs has significant associated risks.

Although there are a number of challenges in developing export programs, they do provide Holden with a means of managing currency exposures with Holden currently enjoying a natural hedge between its imports in US$ and the income earned from exports in US$. The impacts from cyclical changes in the domestic market are also cushioned by the existence of an export program.

In addition to the direct financial benefits provided, investment in exports can drive greater focus and improvements in product and service quality as a result of the differing requirements of the export market. An export program can also increase your profile within a large multi-national company, which can provide otherwise unavailable opportunities in the future.

Vehicle Affordability

Q.8 How do Australian domestic car prices compare with those in other developed countries with a domestic automotive industry (in absolute terms and in terms of affordability)? What impact do taxes have on these comparisons?

Prices within any relatively open auto market with its own domestic industry are largely a function of two drivers. The first driver is the competition generated by the local vehicle producers. The second, which is only applicable within relatively open and free markets, is that competition generated by imported vehicles. In some markets, certain brands may command a premium based on market perception rather than the cost of manufacturing the product. This and other such consumer driven factors complicate the issue of pricing within a market.

However, in today's world-economy, very few governments refrain from regulating the levels of competition within the home market in an effort to maintain some form of domestic production. Controlling measures such as tariffs, taxes and non-tariff barriers are all employed by governments to influence the level of competition within the market.

In less open markets, such control forms the third driver of car prices.

In addition, affordability is affected by many factors including inflation, the prevailing currency exchange rate, the level of local wages and prevailing profit margins. Coupling the large variety of passenger vehicles available globally with such a diverse collection of global market environments, presents analysts with many difficulties in determining a suitable "Automobile Price Benchmark". However, in an attempt to establish how Australia's domestic car prices compare to other markets, a benchmark has been created.

Generally, it is vehicles in the prestige/luxury car segments that are sold across global markets in essentially the same form. Therefore, the car chosen as the standard vehicle for comparison was the SAAB 9-5 Linear Sedan 2.3T (185bhp). The 9-5 Linear priced in each country is equipped with standard features including leather seats, alloy wheels and automatic transmission to ensure a suitable comparison is maintained across the markets considered.

Figure 2 shows the price in US Dollars of the SAAB 9-5 standard vehicle across nine countries using Q1 2002 average exchange rates to convert the various currencies of sale. The data shows that in absolute terms, prices in Australia are cheaper than prices in the US, the UK and Japan and are comparable to prices in Belgium and Germany. Prices in the home market of Sweden and Canada are cheaper.

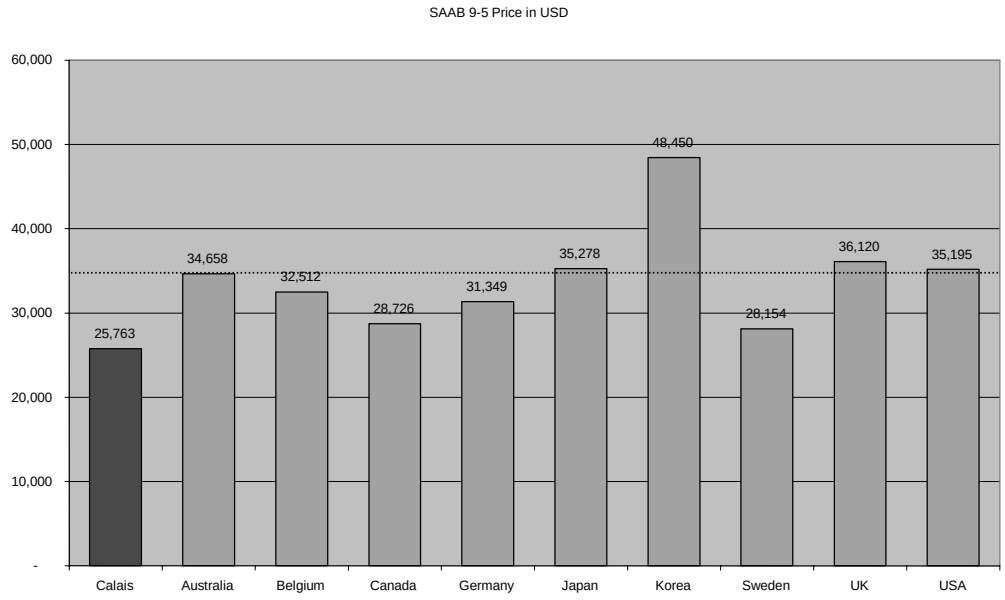

Figure 2: Prices across nine countries in US Dollars

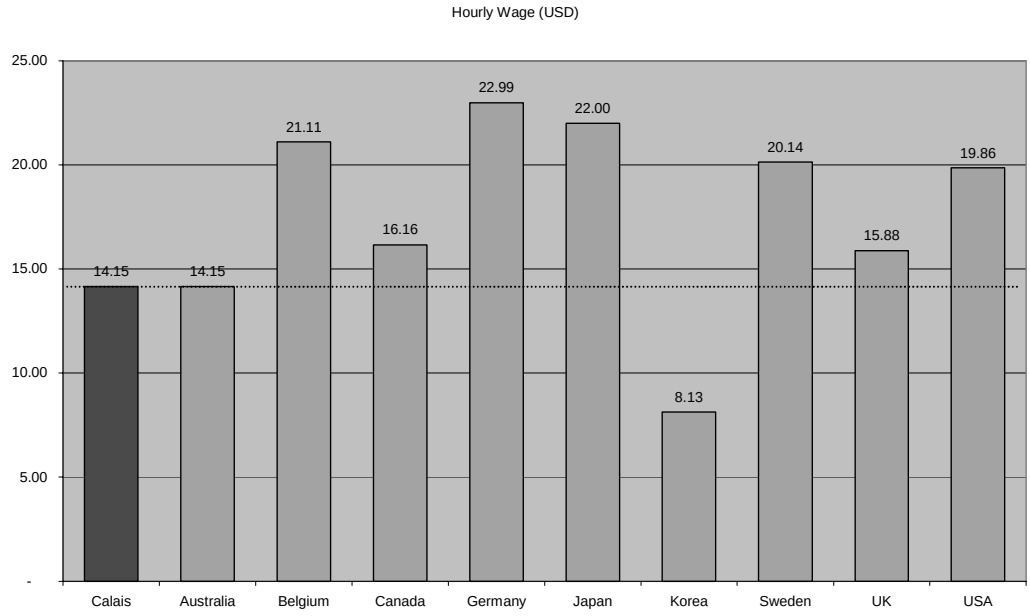

Figure 3: Hourly Wages Comparison across nine countries.

The SAAB only attracts Luxury Tax in Australia and when Luxury tax has been removed, the value reduces to USD 33,439 (less than the sample average). Moreover, if it would be possible to normalise for transport costs, the cost of the vehicle in Australia would reduce further towards the cheaper end of the sample. Korea stands alone as an outlier based largely on their significant non-tariff barriers to entry leading to different positioning of the brand within that market. While the sample of countries used here is small, it does show that the Australian absolute price for the benchmark SAAB 9-5 Sedan is competitive with developed countries with a domestic automotive industry.

If it is assumed that the SAAB 9-5 Sedan benchmark is representative of the competitiveness of a country's auto market, then it follows that, in absolute terms, Australia's car prices already compare favourably to similar developed countries. The locally produced Holden Calais has been included in the sample to provide a comparison between locally made and imported vehicles. As can be seen in Figure 2, the Holden Calais is US$8,895 less than the SAAB 9-5 Linear Sedan. In addition to having features including leather seats, alloy wheels and automatic transmission comparable to the SAAB, the Holden Calais comes with a more powerful V6 engine and is a significantly larger vehicle. This comparison provides a strong indication of the local market pricing structure that is strongly influenced by brand perception.

Figure 3 provides hourly wages data from the US Department of Labour Statistics for manufacturing workers for a nine-country sample. Across the developed nations in the sample (Korea has only recently been admitted as a member of the OECD), Australia has the lowest hourly average wage. Amongst other drivers, this has been widely attributed to the low value of the Australian dollar against the major currencies.

Consequently, even though Australia has a very competitively priced vehicle market (in absolute terms), the effect of Australia's low-wages drives affordability down to the worst in the developed countries measured. Figure 4 shows that vehicle affordability (measured in pre-tax hours worked to achieve the price of the vehicle) is twice that of some countries in the sample.

The benefit for local production is that low wages and the low value of the Australian dollar makes purchase of a locally made vehicle (for example, the Holden Calais) very attractive and excellent value for money. In terms of affordability, the Holden Calais offers a similarly appointed larger vehicle, with a more powerful engine at a price that is comparable to the SAAB 9-5 in most of the developed countries included in the sample. Locally produced vehicles therefore provide the domestic consumer with a high-quality equivalent product at a more affordable price. The attractiveness of the local product to export markets is also increased.

Estimating the effect taxes have on the worldwide prices of vehicles is problematic. As prices can be driven by other factors (such as market demand and product positioning) isolating the effect of taxes is difficult. For example, The Netherlands has one of the highest average rates of taxation in Europe. However, the prices of their vehicles remain competitive against other EU markets.

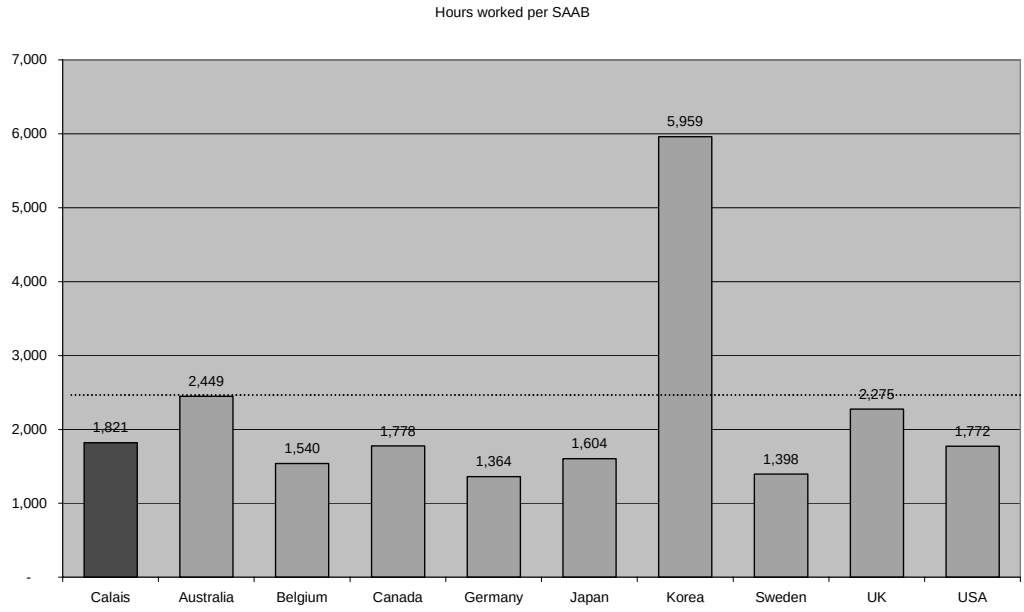

Figure 4: Affordability (Hours worked per SAAB 9-5 Sedan)

The tax regime of Korea is the most complex within the sample countries presented in this brief. Korean tax law combines five different taxes at acquisition with a further two yearly taxes for the life of the vehicle. While not as complex as Korea's, Japan also has a more complicated regime than countries like Canada and the US. In Canada, the purchaser pays a 7% GST (and a $100 air-conditioner tax), on purchase. Subsequent to purchase, the only tax paid is the fuel excise, associated with on-going running costs.

According to www.eurocarprice.com, the average tax levied on automobiles in Europe is 21.3 percent. This ranges from a low of 7.6 percent in Switzerland to 53 percent in Portugal. The EU is currently working towards a harmonisation of vehicle taxes within member countries.

Australia's tax regime falls mid-way in the complexity scale of this sample. In addition to the 10% GST, a state-imposed stamp duty is also levied. Where the vehicle value is greater than $55,134, a 25% luxury tax is imposed on the amount greater than the threshold. The fact that the luxury tax threshold has not been adjusted with CPI with the passing of time has meant that the intended effect of the Luxury Tax is being diminished.

As no direct correlation has yet been established between car vehicle price and the prevailing tax regime, discussion of the implications of tax are best directed towards the way they affect market dynamics. Countries like Australia have already moved towards simplifying the ways taxes are levied to foster frictionless trade within the domestic market. Complex and onerous taxes (particularly on transactions) can impact vehicle sales and accordingly, Holden supports the removal of stamp duty on vehicle sales.

Industry Opportunities and Impediments

Emerging Opportunities

Q.9 What are the emerging opportunities for the Australian automotive industry? Will these mainly arise in export markets or will the domestic market also provide new opportunities?

The Australian auto industry has a window of opportunity for viability and even prosperity, but it appears to be a very small window and will require very focused actions.

As explained earlier under "Global Integration", Holden's vision involves the development of a unique Australian vehicle platform, which will be offered in a variety of variants. This has, indeed, been Holden's core strategy since the 1940s. However where historically the products were aimed at the Australian domestic market, and the family of variants was relatively static, the future version will involve exports of around one third of production, and constant revision of the product family members.

Australian Domestic

The Australian ratio of vehicles to population is high by world standards, and is not expected to grow substantially. This means that total market size will most likely only grow in line with population, probably at a little over one per cent per year. Holden's business strategy requires considerably more growth than this, so it will be necessary either to increase share of existing segments, or enter new segments. The latter is a much more realistic proposition in most cases.

Currently Holden participates through local manufacture, in the upper medium, prestige, luxury, light truck, and sports segments of the domestic motor vehicle market. To meet Holden's strategic target of 130,000 annual domestic sales of locally manufactured vehicles it will be necessary to enter both more sub-segments, and more segments. Developing additional product variants based on the Commodore vehicle platform will do this.

Selection of target segments will depend on a combination of:

- Potential segment size
- Brand fit
- Growth prospects
- Per unit profit margin opportunity.

The intent is not only to grow the domestic business, but also to diversify the product offering so that vulnerability is reduced. In particular, Holden's current high reliance on the upper medium segment is regarded as a strategic risk in the light of various market forces that could potentially cause the segment to shrink as a proportion of the total market, in the long term.

Export Markets

Holden currently has two important export markets; the Middle East and New Zealand. Together, these markets account for the great majority of our exports. Exports are approximately 30,000 units per year. Holden's strategic plan calls for this to be increased to 50,000 units per year by 2008 and for the expanded volume to be secure, stable and profitable. This cannot be achieved by further development of existing markets, and is fairly unlikely to be achieved fully through adding small markets such as additional Middle Eastern countries, Brazil, South Africa etc. At least one additional large export market is required.

Markets with theoretical potential exist in several countries, but especially in the United States and the European Union. However to enter such markets, where GM is already strongly represented and in fact has significant surplus capacity, requires that we have uniquely attractive niche products to offer. Even where that condition is met, the issue of potential local production must be considered, in the light of labour agreements and conditions that exist in both of those markets.

One approach to the volume problem would consist of Holden's products being manufactured locally in North America and/or Europe. However given that the basic driving force behind Holden's business strategy is the need to achieve improved economies of scale, this is in a strategic sense only a part of a solution – although it could work in combination with full Australian production of some vehicle variants for world markets. This suggests that there will be a need for complex analytical processes to identify the optimum solution to the manufacturing allocation problem.

Q.10 Are there particular niche markets for the Australian industry? Do Australian manufacturers have strengths in certain areas, such as design and production of particular components, engines or large passenger vehicles?

While there are still some challenges to be overcome, it is realistic to conclude that Holden's strategic position as GM's leading centre of expertise with regard to large, low-priced rear wheel drive passenger vehicles, is an advantageous one. The family of vehicles that can potentially be produced satisfies the intent of Holden's business strategy: it is coherent, cost-competitive, and sufficiently different from both front-drive and truck-based products to constitute a distinct field of product technology.

Not many decades ago, any review of where expertise in large rear drive passenger car design and changes in production was to be found, would have identified the United States. However circumstances, in particular the workings of the Corporate Average Fuel Economy (CAFÉ) regulations, have brought about some significant differences. The US vehicle market has changed since the introduction of CAFÉ from an initial ratio of 75% passenger, 25% light commercial to a current ratio of 50% passenger, 50% light commercial. The passenger cars that have been replaced by the additional light trucks were predominantly large, popularly-priced rear drive ones. As a result, large rear drive passenger vehicles are now niche products in the United States, and are constrained by regulatory processes to remain so. Regulatory circumstances in Australia have avoided

this forced substitution of trucks for cars, and the market for large low-priced rear drive passenger cars has continued to be approximately one third of the passenger market, making this one of the world's largest markets for such products.

Australian producers have specialised in manufacturing one type of vehicle, serving what is a mainstream market domestically but a niche market globally. In the process they have gained relevant expertise while sacrificing other skills that were available on international markets. Hence, front drive cars are not designed in Australia. Engines are not designed in Australia, though significant specialised development is undertaken here. Most of the complex vehicle systems are not designed here. The industry is focused on doing the things that either cannot be purchased as a global commodity, or for product-specific reasons cannot be adopted from generic global designs.

Taxation

Q.11 Is there a need for reform of state and local government taxes and charges impacting on the automotive industry? What would be the impact of such reform?

As a result of the GST offset, there is potential for States to review for a number of tax changes and reductions. State revenues are collected through a variety of means including payroll tax, workers' compensation levies, land tax and stamp duties. Of these, the elimination of stamp duty as it applies to vehicle sales would have the largest impact on the automotive industry.

The collection of a transactional tax in the form of stamp duty discourages consumers from turning over their vehicles periodically and hence contributes to environmental and safety issues as older vehicles remain on the roads. Apart from the flow-on community improvements in environment and safety, the industry would clearly benefit from an increasing volume of domestic sales. As the Australian market is essentially isolated and finite, with little prospects for growth, any legitimate means to increase domestic sales volumes would be very beneficial to the industry.

The full benefits would only be obtained by the *total removal* of stamp duty payable upon a vehicle purchase. Other less attractive options include progressively reducing the stamp duty across an agreed schedule, as State revenue from GST increases. However, any options that provide stamp duty concessions based on vehicle type or performance must be carefully developed so as not to lead to distortions in the market that may be inconsistent with industry policy direction.

Barriers to Trade

Q.12 Are firms encountering significant trade barriers (tariff and non-tariff) or other difficulties in further developing export markets? Has this encouraged Australian firms (or their 'parents') to make direct investments or forge partnerships in such markets? What are the advantages/disadvantages of this approach? Are any significant changes anticipated which could make any of Australia's key export markets vulnerable?

While Holden and its competitors have expanded export markets considerably over the last five years, as has been outlined in earlier sections our export markets to date have been focussed on New Zealand and the Middle East. Both of these are markets with either a reasonably high share of large cars in the total passenger market, such as New Zealand or where the large rear wheel drive segment is itself a significant part of the market, such as in Saudi Arabia and other Middle East markets.

The opportunities where significant incremental growth exists for Holden are additional markets in which a niche for large rear wheels drive vehicles exist, or can be created. A number of markets that can be identified in this category have a small segment in which Holden vehicles would compete, but in the context of the overall size of the markets, the volume would be significant. Examples of these markets include Korea, China, Japan as well as a number of the ASEAN markets such as Thailand and Indonesia. In all of these markets however, significant trade barriers, either tariff or non-tariff are in place and these have provided significant difficulties to further develop our exports into those markets.

A particular example can be provided in the case of Indonesia. Holden had originally scheduled to begin exports to Indonesia in May 2001 with the 3.8 litre Commodore to be imported as a CBU and sold under the Chevrolet Lumina nameplate. The Lumina would compete in the luxury car market and would attract an 80% import duty and 50% luxury tax. Volumes were projected to grow from around 250 in the first year up to 1500 per year over the life of the program. However, under changes announced after the first 50 vehicles were manufactured and ready for shipment, tariffs were increased to 100% duty and 75% luxury tax. This translated to a retail price increase of approximately 27% positioning the vehicles well above the point at which they could be competitive.

In addition, Thailand for example still imposes an 80% tariff on imports of passenger motor vehicles, China initially imposed tariffs of 40% immediately after WTO accession and both Japan and Korea have in place substantial non-tariff barriers for vehicle imports. The Federal Chamber of Automotive Industries has provided some of this information in detail in their submission to the Productivity Commission.

The trade barriers in place have to an extent encouraged Australian firms, including Holden, and their parent companies, to make direct investments in certain markets. An example of this is GM's significant investment in Thailand. The opportunities for Australian vehicle manufacturers in markets such as Thailand are relatively small, given Australia's specialisation in large cars and a tax system in Thailand that discriminates against such vehicles. However given the growth potential of ASEAN markets over the

next decade or two, participation as a niche supplier could progressively become attractive. Meanwhile Thailand's own industry primarily produces light trucks – a segment in which Australian production is fairly narrowly specialised. It follows that there is a great deal of complementarity between the two national industries, and both would be likely to gain from a Free Trade Agreement. In terms of any significant changes anticipated which could make any of Australia's export markets vulnerable, the issue of Australia's position outside any of the major trading blocs is one that will increasingly place us at risk. Powerful trading blocs have been established in the North American market via NAFTA, in the European Union and in the South American countries in the Mercosur trading bloc. While the ASEAN free trade area has been under review for some time, there appears less and less opportunity for Australia and New Zealand to become part of AFTA unless the strategy of bi-lateral agreements with Singapore, Thailand and other markets forces that eventual outcome. At the same time, China's accession to the WTO and speculation that China could join with AFTA are also of concern if Australia remains outside these arrangements.

Government Initiatives

Q.13 What are the implications for the automotive sector of Government initiatives such as:

- ***the national Average Fuel Consumption Target of 15 per cent over business as usual by 2010?***
- ***the international harmonisation of Australian Design Rules (ADRs)?***
- ***other road safety and environmental initiatives?***

National Average Fuel Consumption Target

The National Average Fuel Consumption Target of 15% over business as usual by 2010 has been under discussion between the industry and the Government for some years. The industry has proposed two "Co-operative Targets" of 6.8 litres per 100km by 2010, and 6.3 litres per 100km by 2015. These targets represent a significant challenge when compared to the "Achievable Target" of 7.4 litres per 100 kilometres that had previously been identified. Clearly, whether these targets can be achieved will depend on a range of factors including availability, costs and uptake of relevant technologies, availability and quality of fuels, consumer preferences and policy settings. In particular, the industry has identified the need for Government participation, requiring that it work closely with industry to achieve a policy framework in which consumers value fuel efficiency improvements sufficiently to choose to purchase them, without sacrificing their existing preference for large cars which is the basis for the industry's viability.

Other issues that have been identified in the discussions with Government to date include the need to develop an appropriate mechanism to take into account the improved greenhouse outcome of alternative fuels. In addition, there will be a need for Government involvement in education to encourage fuel efficiency consciousness, including policies to ensure the widespread acceptance of 95 RON fuel from 2005.

It should be pointed out that despite the protracted nature of the negotiations, agreement has not yet been reached on the target that will be in place for the industry by 2010. Clearly, this represents some difficulty in providing some certainty of commitment for individual companies.

Despite this lack of certainty, Holden has in place a fuel consumption improvement strategy, which will involve the introduction of various technologies to improve fuel efficiency of vehicles. This strategy will only be effective, however, if the relevant product changes (which Holden can implement) are supported by suitable policy changes (which only government can implement).

The principal issue of concern when considering fuel efficiency improvements driven by government policy requirements are the issues relating to consumer willingness to pay for the various technologies which will be required to achieve the target. Holden's research consistently shows that consumers do not value improved fuel efficiency highly. At least in a relative sense, fuel efficiency ranks relatively low when compared to other vehicle attributes such as performance, towing capacity, features and safety. This can be attributed in the main to the relatively low cost of fuel in Australia, and it appears unlikely that this will change in the short to medium term. What it means in practical terms is that if we are required to incorporate new technologies into our vehicles that the consumer does not value, we will obviously not be in a position to recover the cost of those technologies in the price of the vehicles. Ultimately, this will have the effect of rendering our vehicles less competitive in the marketplace.

In Holden's view the preferred method for encouraging an increased consumer emphasis on fuel economy would be a gradual and moderate increase in fuel excise, which would send an appropriate signal to consumers without causing economic or industry disruption. However, we understand that this may not suit political realities in Australia.

Holden remains committed to reaching agreement with the Government on an appropriate target for 2010. It is our belief that ability to introduce fuel consumption technologies at the most competitive price will represent a key competitive strength for those companies that are able to achieve it.

As noted above, an additional issue that must be considered in conjunction with any discussion of fuel consumption targets is the surrounding policy environment in place to support achievement of such targets. In particular, policies aimed at the achievement of appropriate fuel quality to allow the introduction of new vehicle technologies will be critical. In addition, the timing of adoption of new emissions standards must complement the adoption of new vehicle technologies and fuel standards.

Harmonisation of Australian Design Rules

Countries around the world use different regulation standards for motor vehicles. The major standards include EC directives, developed predominantly by the European Union countries and FMVSS regulations, developed and applied by the USA. Japan does not have regulations as such, but requires compliance with their TRIAS test procedures. Most other countries derive their regulations from the international ECE regulations, which are now being used more widely across the world (with the exception of North America) to develop new regulations.

As a result of numerous social and economic factors, countries have adopted vehicle regulations at varying rates. The Australian government has adopted a policy of harmonising the Australian Design Regulations (ADRs) with the ECE vehicle regulations. This has the advantage of creating a wide acceptance of these regulations by countries in Europe and Asia and by some Latin American countries and South Africa. In a number of countries, validation of compliance in one ECE country is accepted by other countries, which have adopted the ECE regulations without any requirement for further demonstration of compliance or validation. Clearly this harmonisation of regulations and recognition of compliance validation in other country jurisdictions, facilitates open trade in motor vehicles between countries.

As already discussed in this submission, to achieve scale economies vehicle manufacturers will sell the same vehicle or variants from one platform into as many markets as possible where design changes are not required for compliance in that market. As importers, this can represent a cost disadvantage when competing with vehicles built by local manufacturers or importers who comply only with the current local standards or regulations. The advancement of the principle of standards harmonisation removes such non-tariff barriers to trade.

Vehicle regulations that require high investment to achieve compliance are areas where Australia currently lags behind world's best practice. These areas include emissions and safety regulations. Further details on each of these follow.

- Emissions
  - Australia's current regulations are approximately equivalent to the "US 87" standard. However from January 2003 the relevant Australian standard will be ECE-R 83.04 (Euro 2). In January 2005 Australia will adopt Euro 3. It should be noted, however, that Euro 3 will still be a generation behind the standards in the European Union markets at that time.
- Safety
  - Interior occupant protection regulations incur high development costs due to the extended testing requirements and high piece costs for components used in the vehicle. In particular, the unique national standards used in the US tend to impede world trade.

These areas represent a challenge for Australian designed vehicles. To develop vehicles to comply with regulations that apply in overseas markets but do not apply in Australia requires significant investment. This investment cannot necessarily be recovered in domestic Australian sales because the increased piece cost in the vehicles

and the additional amortisation of the development costs would impact on the ability to price competitively in the domestic market. The preferred solution would be for Australia to adopt world standards as part of its transition to globalisation.

Holden is in favour of harmonisation of Australian regulations with more advanced regulation frameworks. Harmonisation will maximise the opportunities for local vehicle manufacturers to become globally competitive and will provide the benefits of advanced vehicle designs and features to Australian consumers.

Environment

Q.14 What are the possible implications for the local industry were the Australian Government to ratify the Kyoto protocol on climate change? What impact would this have on the domestic market and on export markets for the products manufactured by the Australian industry?

Implications for the local industry arising from ratification of the Kyoto protocol will depend on a number of issues. If ratification of the Kyoto protocol resulted in a more stringent policy environment restricting greenhouse gas emissions from all sources, and this were translated into more stringent fuel consumption targets, it is quite possible that domestic manufacture of the vehicles currently produced by Holden in Australia would become unviable. As outlined in some detail in previous sections of the submission, Holden's strength stems from its position as a strong niche player within General Motors' global operations. Our strength is in the manufacture for domestic and export markets of large rear wheel drive passenger vehicles. Other divisions of General Motors have established strengths in the production of smaller vehicles and it is unlikely that there would be any transfer of these portfolio segments to Australia. Manufacturing in Australia by General Motors would simply be discontinued under this scenario.

It should also be borne in mind that there are a number of alternative scenarios that could apply in Australia if the Australian Government elects not to ratify the protocol. In particular, if a policy position were adopted which supported the introduction of domestic policy measures aimed at greenhouse gas emission abatement, but these were implemented in the absence of the flexibility mechanisms that have been negotiated as part of the Kyoto protocol, the position for Australia and Australian industry could conceivably be even worse than that outlined above. The flexibility mechanisms such as international emissions trading should provide the ability to reduce the negative impacts of greenhouse gas emission reductions. However in the absence of resolution of the remaining significant issues – namely the lack of participation by the U.S. and the inability of the protocol to take into account emissions from developing countries, it is difficult to see a clear solution.[11]

[11] . Clearly under the Kyoto protocol there is a potential for relocation of various manufacturing activities from countries such as Australia, to developing countries. This would not be likely to result in any net decrease in emissions of greenhouse gases, but could be economically damaging to the countries, which lost industries and the associated employment.

In addition to the direct implications for the auto industry, flow on effects from higher electricity and other energy costs under either of these two scenarios will be relevant. Implications for the energy sector will generally translate into higher costs, which will to a large extent be passed on in higher prices to consumers. As a large consumer of electricity and gas, Holden's cost competitiveness will be impacted as a result of these increases. Taking into account the policy environment which ratification of the Kyoto protocol would assume, that is non-participation by developing economies, we would place ourselves at a considerable disadvantage when compared to our emerging competitors in markets including China, Thailand and others in our neighbouring region. This decline in cost competitiveness will impact us significantly in all export markets, particularly those in which we compete at a mainstream level rather than as a premium niche supplier.

In the broader context, it is Holden's view that the basic challenge is to meet the world's growing demands for energy necessary to sustain economic growth while also addressing long-term concerns about the environment. The development and global implementation of new, cost-effective energy technologies in all sectors, such as renewable hydrogen, is the most effective way to improve energy efficiency and reduce greenhouse gas emissions. This approach is best facilitated by relying on voluntary initiatives and market-oriented measures, not through government mandates. In order to meet this challenge, actions to be considered include:

- Support for voluntary initiatives and market-oriented policies to seize near-term opportunities to reduce greenhouse gas emissions.
- Development and implementation of carbon sequestration, capture, and storage technologies that will offset the emissions from the world's rapidly growing demands for energy without risk to the environment.
- Development and global implementation of advanced energy and breakthrough technologies such as fuel cells and their supporting infrastructures
- Continuing scientific research to improve understanding of the climate system and the effectiveness of potential policy actions.

Q.15 Which other government programs and regulations have adversely or beneficially affected the industry?

There are a number of government programs, regulations and other instruments that either benefit or adversely affect the industry. A number of these examples are included elsewhere in this submission including the Strategic Investment Scheme, TRADEX, fuel consumption targets and the R&D tax concession.

However, an additional activity affecting the industry that has not been raised in responses elsewhere in this submission is detailed below:

Stamp Duty Exemptions for "Clean Vehicles"

The NSW Government has recently announced an initiative to promote "clean vehicles" through the provision of stamp duty incentives on the initial registration of "clean emission" vehicles. The proposal includes categories of cleanliness related to the amount of emissions produced by the vehicle and is intended to encourage purchase of low emission vehicles.

Holden is concerned by the growing trend to develop State-based solutions to national environmental challenges. Australia needs clear, coordinated environmental policies at a Federal level and these initiatives should take a longer-term approach to improving the environment whilst also maintaining the competitiveness of the Australian industry. The proliferation of State based regulations must be discouraged in order to achieve the desired national environmental objectives. Policy measures which are State based are likely to be costly, inefficient and inequitable.

In addition, Holden is concerned about the impact of the recent NSW policy decision on the future introduction of environmentally friendly diesel powered engines. Diesel engines have long been associated with noise, black smoke and heavy vehicle transport. However, in recent years a new generation of clean, lightweight, quiet and powerful diesel engines with catalytic exhaust treatment, has been produced and these engines are renowned for their fuel efficiency. The NSW proposal has the potential to rate diesel fuels poorly against petrol and other fuels, which will enhance the negative public perception of diesel engines and thereby hinder advances that the industry could potentially make with respect to this technology and fuel efficiency.

Benefits of Microeconomic Reform

Q.16 Has the industry benefited from microeconomic reforms in other sectors? To what extent have these offset reductions in assistance? What further reforms would assist the industry to become more internationally competitive?

Overall the automotive industries have benefited from microeconomic reforms in other sectors of the Australian economy since the mid-1980s. The benefits of microeconomic reform to the industries have been both direct and indirect.

Nevertheless these benefits to the automotive industries to date have only provided a minimal offset to the impact of the reduction in assistance to the automotive industries. Considerable scope remains for Commonwealth and State Governments to implement further microeconomic reforms that would be beneficial to the community as a whole, as well as the automotive industries.

To date the direct benefits to the automotive industries of microeconomic reform have included the following:

- The reform of the indirect taxation system ended the discriminatory treatment of automobiles by the wholesale tax system. The introduction of the GST has reduced the indirect tax rate on automobiles thereby improving their affordability.
- Improved productivity arising from reforms to the regulation of the labour market. This has included the greater flexibility for employers in negotiating labour arrangements with their employees under the *Workplace Relations Act*.
- Lower material costs from the reduction in tariffs on all imported non-automotive products. For the vast majority of these products the tariff is now no more than 5 per cent. These include plant and equipment, iron and steel, plastics, textile fabrics and chemicals, which are extensively used by the Australian automotive industries.
- Lower prices and higher quality supply for utility services. This has included the removal of barriers to competition for large customers as part of the National Electricity Market and of barriers to competition in gas supply. A study by Deloites in 1998 found that major businesses have achieved savings of 88 per cent in their energy costs.[12]
- Lower costs and improved reliability in transport and communications services. This has been due to regulatory reform and the removal of barriers to competition. They have included reforms to road and rail transport, ports and the waterfront, which have enhanced the efficiency and reliability of the automotive industries supply chains — affecting the movement of automobiles, engines and components.

In addition to the direct benefits that they have enjoyed from microeconomic reform elsewhere in the economy, the automotive industries also benefit indirectly as a result of the improved economic performance that reform generates. According to recent

[12] Quoted in National Competition Council, *The NCP Package and Progress to Date*.

research at the Productivity Commission, Australia's productivity performance has accelerated sharply over the 1990s and is now at an all time high.[13] This result strongly suggests that the microeconomic reforms since the mid-1980s are contributing to progressively higher levels of national income, which in turn will lead to an increase in domestic demand for automobiles.

That said, however, a number of government policies and regulatory initiatives continue to add to the cost to households and businesses of owning and using automobiles. For example, State and Territory registration fees and charges and stringent safety and environmental regulation both add significantly to the price of owning an automobile. Commonwealth fuel excise tax is a significant impost on the cost of operating a vehicle. As noted previously by the Industry Commission, State stamp duty and registration fees on a locally produced six cylinder sedan add about $900 to its on-road cost in Victoria and $1300 in New South Wales.[14]

Microeconomic reforms in other sectors of the economy have clearly been only a minimal offset to the impact of the reductions in assistance to the automotive industries. The Industry Commission acknowledged this in its 1997 inquiry into the automotive industries. At that time the Commission concluded that:

> '…it is not reasonable to expect these benefits to be large enough to offset the increased competitive pressures associated with the reduction in tariffs.'[15]

Nonetheless, Holden considers that there is still considerable scope for further microeconomic reforms that can make an important contribution to the competitiveness of the Australian automotive industries and to the welfare of the community as a whole. Accordingly Holden believes that it is vital that the scope for further reform be realised expeditiously.

Labour costs represent approximately 20 per cent of the cost of assembling a motor vehicle and are a significant part of the cost of automotive components. Furthermore, there is considerable scope for increasing the flexibility allowed to employers and their employees to agree mutually satisfactory labour arrangements. In such circumstances further labour market reform has significant potential for improved competitiveness by the domestic automotive industries.

Another area of microeconomic reform where there is significant potential to improve the productivity in the economy, including in the automotive industries, is in the support for research and development (R&D). As the Industry Commission has found:

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[13] Dean Parham, *The New Economy? A New Look at Australia's Productivity Performance*, Productivity Commission Staff Paper, AusInfo, Canberra, May 1999.

[14] Industry Commission, *The Automotive Industry, Vol 1: Report*, Report No 58, 26 May 1997, p. 118.

[15] Industry Commission, *The Automotive Industry, Vol 1: Report*, Report No 58, 26 May 1997, p. 172.

> '…the fundamental rationale for government intervention [to support R&D] remains the "public good" characteristics of knowledge creation —its lack of appropriability and wide applicability — enabling spillovers to society from private investments in R&D'.[16]

The Commission also concluded that the tax concession for R&D expenditure by business had brought net benefits to the Australian economy.[17] Since the Commission's report was completed in 1995, the Federal Government has reduced rate of the R&D tax concession from 150 per cent to 125 per cent and reduced the company tax rate from 36 to 30 per cent.

Both of these decisions have reduced the government support for business R&D. As a consequence they would have reduced the amount of R&D that is conducted by business in Australia and therefore the net economic benefit that business R&D generates for the Australian community.

A strong research and development base is a key element of Australia's automotive design and manufacturing capability and Australia's attractiveness as an investment location by automotive companies. This consideration and the cuts in the general level of government support for R&D underlie Holden's proposal to switch the basis of ACIS assistance from output to R&D expenditure.

In addition to the above, there are a number of other areas where further microeconomic reforms would benefit the country and the automotive industries. They include:

- Pursuit of further improvements in the provision and operation of economic infrastructure and related utility services (for example energy, water, transport and telecommunications, etc).
- Adoption of more a rigorous cost-benefit approach to the regulation of automobile design and operation to protect health, safety and the environment— such as the vehicle emission and fuel consumption standards.
- Reform of Commonwealth and State taxes, fees and charges on the ownership and use of motor vehicles. There is no clear linkage between these taxes and the provision and use of roads.
- Reform to the education and training system to ensure that the workforce has the skills and training necessary to support and enhance productivity growth.

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[16] Industry Commission, *Research and Development, Vol. 1: The Report*, Report No. 44, Australian Government Publishing Service, Canberra, p. 9.

[17] Industry Commission, *Research and Development, Vol. 1: The Report*, Report No. 44, Australian Government Publishing Service, Canberra, p. 29.

Impediments to Long Term Viability

Q.17 Are there significant impediments to the long term viability of the automotive manufacturing sector? Is the relatively small scale of the local industry a significant problem? How have producers attempted to reduce the extent of the associated cost disadvantage? What more could be done in future?

While Australia has become a specialist producer of a particular type of car, it has also been obliged by circumstances to become particularly efficient at it. Because the market is relatively small, the attainment of adequate economies of scale for production of a unique vehicle design has always been an elusive goal. At the same time, until relatively recently, the domestic market was a protected one, and export sales were therefore less viable than domestic sales. This created a peculiarly focused environment in which carmakers had to find ways to achieve scale economies in an excessively small market. They sought, and to some extent succeeded, in achieving this through two stratagems:

1. They expanded the Australian large car segment through stringent downward price pressure and fleet marketing strategies, thus distorting the price structure of the entire market in favour of the large car segment, and almost eliminating the medium car segment through price compression.

2. They invented a range of "variants" based on their large passenger car platforms, so that they could participate in multiple market segments with their single platform.

The result of the specialisation of the Australian industry in making multiple large rear drive vehicles on a single low-cost platform, combined with the mass exodus of American manufacturers from the large rear drive passenger car business, is to create a business opportunity for Australian manufacturers. A world market continues to exist for the vehicles the Americans no longer produce, albeit a fairly small and specialised one. Australia is uniquely placed to bid for this international business on the basis not only of special expertise, but also on the back of substantial domestic sales of the same vehicles.

It is important to note that the Australian industry achieved its current positioning through a series of events rather than in a single step. The capability to produce at low volume, and to spin off a range of vehicle variants from a single platform, arose in an environment of a protected market of sub-optimal size. Then, when the environment introduced an additional challenge in the form of inexorably lessening government assistance, a new requirement for rapid improvements in efficiency and quality was added. Later, when residual assistance levels had become modest by world standards, it became both possible and necessary to enter export markets by finding a viable product niche. The niche, of course, had to be compatible with maintaining adequate domestic Australian volume. The fact that such a niche had by then been created by an American retreat from a suitable market segment was not simply fortuitous. Australian manufacturers had for decades been shaping their products to fit into gaps or impending gaps in overseas portfolios because that has for many years been the only way to get their product plans approved by their shareholder.

Developing a viable future for the Australian industry will require more of the ingenuity that has brought it this far. It is likely to always be the case, that an Australian manufacturing location will be unhelpful to the economics of motor vehicle production and sales. This implies that an offsetting special advantage will always be required. This advantage might take any of several forms. It might be:

- Substantial ongoing government assistance. This is not a highly attractive option, since it implies a permanent "client" status for the industry, and a permanent burden on the economy. Nevertheless it seems to be the direction being chosen by the industries and governments in a number of countries.
- Sheer superiority of product creation and manufacture. It is conceivable that a series of niche products could be invented and executed in Australia, of such market appeal that substantial global sales would result despite a logistical cost disadvantage in distribution from Australia to the world.
- Partnership between the industry and the Australian government that enabled a "home team advantage" to arise without any significant burden on Australian taxpayers. An example of what this might entail can be seen in the existing arrangements with regard to vehicle taxation: Australia is unusual among the world's nations in refraining from levying discriminatory charges on motor vehicles aimed at discouraging the sale of large cars. There are other policy areas where the business environment for car production can be improved without economic disadvantage to the nation – one obvious example being a focus on the current unhealthy reliance of state stamp duty revenue streams on just two forms of transaction (homes and motor vehicles). Overcoming this situation would be a reform comparable with the recent replacement of WST with GST: it had the effect of alleviating an unfair burden on the car industry. Constructive policy support of this kind, combined with an excellent performance by the industry in product design and manufacture, could produce a winning formula. Australian cars could be exported into small niche markets around the world, based on the advantage of a large home market for the same products.

It seems evident that the third of these options has the greatest appeal. In the short term, a transitional phase would be required during which industry assistance was focused on enabling the necessary structural changes in the industry, while at the same time various policy debates and consultations could occur in relation to the broader potential. The latter aspect is of course a long term undertaking, which should be regarded as an aspect of broad economic reform.

Q.18 To what extent do tariffs and tax arrangements influence the range and volume of vehicles sold in Australia? What has been the impact on the industry and consumers of the new tax system, including the retention of taxes on luxury motor vehicles? How significant are current tax arrangements on the decisions of major companies to maintain their own vehicle fleets?

Tariffs have the effect of improving the competitiveness of domestically manufactured vehicles relative to imported vehicles. Because domestically manufactured vehicles compete in medium and large vehicle segments, the local vehicles dominate these segments and the volumes of vehicles sold in these segments are likely to be larger than they would otherwise be. The small passenger car segments in Australia are also significant, but would be likely to be even more so if the price differential to locally manufactured medium and large vehicles were not reduced by the effect of tariffs.

The same is not true of light commercial vehicles where the rate of tariff is lower than on passenger vehicles and many vehicles which are imported as light commercial vehicles effectively compete with or substitute for passenger vehicles. For many years Australia has had one of the highest rates of heavy 4WD sales per capita in the world. It seems highly probable that geographical, primary industry concentration and lifestyles are not the only drivers of this difference but that tariff rates are also strong contributors to this consumer behaviour.

The current fringe benefits tax arrangements are effective in encouraging a high rate of vehicle “packaging” in salary and remuneration arrangements generally. This tax driven advantage appears to drive a greater level of interest in the choice and regular replacement of vehicles than would be the case if vehicles were purchased and financed using the typically different financing structures of private purchasers. As a result of this tax policy it seems likely that both the number of new vehicles sold each year has increased and the average age of vehicles on Australian roads has reduced. Both outcomes have community benefits. This fringe benefits tax policy does not deliver any direct preference for Australian manufactured vehicles.

In recent years there has been a trend away from companies operating large fleets of vehicles. The trend has been towards replacing many company vehicles with vehicles provided under other ownership arrangements, notably novated leases. These financing structures still allow access to the fringe benefits tax benefits, while reducing much of the work traditionally involved in managing a large company car fleet. The local manufacturers continue to benefit significantly from this practice of packaging vehicles into salaries, largely because of their existing relationships with companies and the well developed fleet programs operated by the local manufacturers. As noted above, the fringe benefit tax benefits are not actually limited to locally manufactured vehicles, and consequently, the disproportionate benefit obtained by local manufacturers largely results from the above non-structural factors. As a result, this advantage is capable of being eroded over time by distributors of imported vehicles.

In this environment, the luxury car tax is effective in limiting any encouragement to purchasers to move even further up-market into luxury vehicles. To this extent, the luxury car tax does provide a significant benefit to local vehicle manufacturers, although this is eroding over time with CPI movements.

Benchmarking Automotive Industry Policy Environments

Q.19 How does the general business climate and extent of government support for the Australian automotive industry compare with that of other developed countries with an automotive industry?

A range of policy tools are used worldwide to support the automotive industry. Both tariff and non-tariff methods are commonly employed and help domestic industries compete in a global market, which is oversupplied by world capacity. These barriers are often in the form of policies that restrict market access in that country, or alternatively, are designed to encourage preferential investment in that country.

Governments will strive to foster their domestic industry in light of the highly competitive global market. This commitment to a domestic automotive industry is driven by the perceived strategic benefits to the economy of that country. These benefits can include generation of employment, development of a core of relatively advanced technologies that are often transferred into other parts of industry, development of more efficient manufacturing processes and more generally, creation of a sense of national pride and identity.

In responding to the Productivity Commission's question, reference has been made to a detailed investigation and report conducted by the Allen Consulting Group and Deloitte Touche Tohmatsu. For further detail, reference can be made to this document.[18]

Over a period of time there has been a shift from tariff barriers as a means of protecting local industries towards a broader range of methods and policies that will provide similar outcomes in protecting the local industry. The lowering of barrier protection, while decreasing the competitiveness of local production versus imports, nevertheless creates the twin benefits of improving motor vehicle affordability versus other goods and services, and enhancing the GDP of the country concerned. The trend towards reducing tariffs has been reflected in the agreements that exist to reduce global trade barriers. For developed countries, it is typical to see tariffs of 10%, whilst it is important to keep in mind that a 25% tariff still exists on the import of light commercial vehicles into the US. In developing countries, however, it is common to still find significant tariff barriers, for example on passenger vehicles, ranging from 60% to 80% in Thailand and 23% to 40% in South Africa, to as high as 300% in Malaysia. Korea, with tariffs of 8% on passenger vehicles, is the exception in this category.

Tariff barriers are not the sole method of market protection utilised in countries with an automotive industry. Non-tariff barriers are commonly utilised in developing countries as a means of protecting their industries from external competition. Such non-tariff barriers are far less important in developed countries, with the exceptions being Japan and Korea. Japan has a vehicle distribution system and vehicle standards system that are heavily weighted against imported vehicles and in Korea, it has been noted that foreign vehicle purchasers can be subjected to a far greater likelihood of personal tax audit. It is also important to note that while tariffs for passenger vehicles are minimal in the US,

[18] The Allen Consulting Group and Deloitte Touche Tohmatsu, Report to FCAI and FAPM - "Benchmarking the Automotive Industry Policy Environment", 2002.

other barriers exist making export difficult. An example of a “non-tariff” barrier in the US is the agreement with the primary automotive union, which effectively limits the volume of vehicles that can be exported to the US.

Government policies that support the ongoing existence of and investment in the domestic automotive industry include, direct investment incentives, production subsidies, regional aid support, corporate taxes, support for R&D and benefits provided for education and training.

In developed countries, especially particular States in the US, Germany and the UK, there is a general willingness by governments to provide support for investment. This is also true in Australia where assistance has been provided for investment at both a State and Federal level. In the US, significant incentives for investment including cash grants, land improvements, tax concessions, training assistance, R&D support, are offered by some States. Packages valued at between 15% and 40% of investment costs are typical. In Germany, investment incentive packages of up to 35% are offered, delivered by the EU Regional Aid allowance, whilst in the UK, an investment package of up to 15% is provided. In Japan, preferential tax conditions, low interest loans and debt guarantees may be offered.

In developing countries, there are two distinct models that encourage investment. In Malaysia, the government is following a model, which involves the reservation of the domestic market and direct provision of funding for capital investment. Another model, which is being adopted in Thailand, seeks to encourage the major automotive companies to establish their facilities in that country, by in general, offering tax incentives. Corporate tax exemptions between 8 and 20 years may be offered depending on where the investment is made in Thailand. In Korea, 7-year tax exemptions apply from the first year of profits made, followed by a further 3 years of 50% exemption. In South Africa, the Strategic Investment Program provides credits (capped) of between 50% to 100% of the investment amount.

Production subsidies as provided by ACIS are not common among developed or developing countries. The US provides some State assistance tied to the scale of operations and Canada allows full duty drawback on imported goods that are used in the manufacture of goods to be exported. South Africa has a production subsidy scheme similar to ACIS and EFS.

Corporate tax rates do not provide any significant difference between developed or developing countries and are generally between 28% and 30%, with Canada being an exception at 21% and the US at 35%.

In all countries there has been a trend towards continuing encouragement of expenditure related to R&D. The linkages that such investment can have in the wider economy of these countries is a common philosophy. Support is generally provided through direct government funding. Many countries have special tax arrangements for R&D expenditure, which often provide benefits in the form of tax concessions or credits. Canada, for example, provides a “flat-rate” tax credit of 20% on all eligible R&D expenditure. Other provinces in Canada also provide additional tax incentives, resulting in a dollar of R&D spending only costing between 34 and 50 cents. The US provides an incremental tax credit of 20% for business R&D. In the UK, in addition to the generally

available R&D support, the government has established a Foresight Vehicle research program to promote technology and encourage suppliers to develop and demonstrate technologies for future vehicles. To date, the government has committed 100 million pounds.

In developing countries, such as Thailand, a 200% tax concession for R&D expenditure is provided. In South Africa support for R&D is available through the Government funded Automotive Industry Development Centre.

With the increasing levels of competition in the global automotive industry and increasing technological demands, this capital intensive industry must rely on the skills of its people to ensure ongoing success. Governments have responded to this need by in general, providing grants for training and skill development. In Sweden, education and training grants of up to A$10,000 per employee over a two-year period are available. In Malaysia, a human resources development fund provides grants of up to 95% of training expenditure and in South Africa, a skills development program provides cash grants for up to 50% of a company's training costs. In the US, assistance varies from State to State and includes grants, taxes credits and course tailoring as part of initiatives to attract and retain investment.

In summary, when compared with other developed countries, Australia provides market access to its domestic market in line with most other developed countries, with Japan as the notable exception, maintaining significant non-tariff barriers to entry. Australia's level of investment support is also comparable to that of other developed countries such as in the UK, US and Germany, although the delivery mechanisms vary. In contrast, Australia's investment support is more generous than in countries such as Canada, Japan and Sweden. However, in the key area of support for R&D, Australia is lagging behind other developed countries in the level of support provided for R&D in order to build its innovation capability and competence.

Australia provides considerably greater market access than most developing countries. Korea and Malaysia have restricted their markets through non-tariff barriers (and in Malaysia's case tariff barriers as well) providing significant protection for their local producers. Following reductions in both the R&D assistance rate and the company tax rate, Australia's investment incentives are less than those offered by developing countries and as many of these are in our region, this creates significant competition for investment in Australia. Support for R&D in Australia is comparable to that in Korea and is greater than that provided in Thailand and South Africa, but there are other driving forces leading to vehicle industry development in the former two countries.

Q.20 In relevant export markets for vehicles and components, who are the major competitive suppliers and what assistance do they receive from their governments? How do Australian costs compare with those of the major competitors?

Holden competes in a number of export markets and expanding our opportunities in other markets is an important part of Holden's future strategy. Main markets include the Middle East and New Zealand with opportunities in the US, South Africa, Britain, various parts of the Middle East, Mexico and across the Asia-Pacific region under review. In the Middle East the major competitors for Holden product are Nissan Maxima (Japan) and Ford Crown Victoria (USA). We are not aware of government assistance for these sales being of significant impact. In Brazil, the major competitors for Holden's vehicles are also imported and the tariff is equally applied. Brazil also provides significant tax advantages for locally produced very small vehicles, which reduce the size of the market segment for large vehicles. However, this is unlikely to impact Holden's success in Brazil.

Holden's major competitors in South Africa are local vehicles manufacturers who are protected by a passenger vehicle tariff of 40% and supported by an Export Credits program with similarities to previous Australian plans. This provides very effective support to the local vehicle manufacturers, notably BMW and Mercedes Benz, in competition with imported Holden products.

Competitors for Australia's large passenger vehicles in the ASEAN markets tend to be expensive European and Japanese luxury models. Countries in the ASEAN region tend to have high tariffs or quota restrictions on the importation of vehicles, accompanied by taxes based on engine size. It is difficult for Holden to compete in these markets due to the comparatively larger engine size of Australian manufactured vehicles and the impact that the tariffs and taxes have on the selling price.

Mexico is a member of the North American Free Trade Area (NAFTA) and has an FTA with the European Union. If Holden were to enter this market, the major competitive products would be sourced from NAFTA countries. Potential Holden exports to Mexico would be subject to a 20% tariff , which is not applied to the locally manufactured vehicles or to competing imports from North America and Europe.

The USA is a member of NAFTA. Major competitors in the US market are the local US manufacturers and Japanese and European manufacturers either with imported vehicles or with vehicles manufactured in the USA. As discussed previously, whilst the US has negligible passenger vehicle tariffs, a 25% tariff is applied to imports of commercial vehicles. This has created a distortion in the market share of these vehicles, which has also been supported by exemptions from emission and fuel economy requirements, reducing the opportunities for Holden passenger vehicle sales. Potential Holden exports of utilities or the new AWD wagon would be adversely affected by the 25% tariff. The different design regulations in the US also limit opportunities for Holden manufactured vehicles in this market as significant investment is required to alter Australian designed vehicles to meet the unique US requirements. In addition, this investment must be recovered over a small volume of vehicles due to the restrictions imposed by the automotive union.

In investigating opportunities for sales of Holden vehicles in the European Union countries, the major competitors are European vehicle manufacturers. EU countries apply a 10% tariff to vehicles imported from Australia. In addition, the more advanced stage of adoption of vehicle regulations, as mentioned earlier represents a significant barrier to entry for current Australian vehicles.

Strengths and Weaknesses in the Australian Supply Base

Q. 21 How have the Australian components, tooling and service sectors performed relative to overseas competitors? What are their strengths and weaknesses in competing for supply to overseas customers?

An integrated supply base is crucial to the future success of the industry in Australia. Strong domestic suppliers are vital in allowing the industry to increase its responsiveness to rapidly changing customer preferences. The Australian suppliers are a key part of the vehicle development process, supporting the creation of innovative products and processes and in ensuring that flexibility is maintained in the supply chain to allow more rapid development of new vehicles.

The changes that are occurring in the supply chain relationship are forcing improvements in many areas of the Australian supply base. Vehicle manufacturers are now dealing with far fewer direct suppliers than in the past, placing greater emphasis on the abilities of, in particular, the Tier 1 suppliers. However, the industry needs to develop increased flexibility to meet the demanding and rapidly changing market requirements. It is also important to note that some global companies are choosing not to place further investment in Australia due to unfavourable economic conditions, minimal growth opportunities in the local market and uncertainty in the industrial climate.

When competing for overseas supply contracts, the sector has a number of strengths. The industry, utilising lean organisation structures, is innovative in its approach to product development supported by strong engineering skills and its capability as a niche manufacturer. Many suppliers in the industry are particularly skilled at taking existing designs and developing the required tooling and processes to meet the product outcomes. In comparing the Australian suppliers to their overseas competitors, the low A$ has resulted in competitive prices when compared with North America and Europe. Generally, the component suppliers' skills are high and quality levels are competitive. Supplier organisations across the industry are highly responsive and have excellent capabilities in managing low volume production.

Despite the ongoing improvements that have been made in the supplier base, there are still opportunities for improvement. Opportunities exist in the components, tooling and services sectors in developing program management skills and execution around the vehicle development process. The tooling and service suppliers generally have a strong desire to support Holden in a local component industry that features strong competition. Holden is seen as a major stakeholder/customer, however, there are serious limitations in this sector of the industry that impact our competitiveness. The sector does not have the tooling capability to produce a total Body in White to world class quality levels and as a result, local suppliers need to tap into their global operations and better leverage their

product. The local infrastructure to support OH&S, and other legal legislation requirements is not adequate and there is no specialist management in these areas.

In contrast to other areas of the supplier base, the Australian logistics suppliers have effective management teams and excellent technical skills. Quality levels are generally better than the global benchmark and innovation is excellent. Again they are highly responsive and these companies tend to have good IT and visibility solutions. These suppliers are strong financially and there is a willingness to invest or develop infrastructure when required or to enable efficiency gains. The businesses have proven standard operating procedures and contingency plans, seek continuous improvement opportunities and will partner with other organisations to achieve common goals.

The relatively small scale of the supplier base in Australia increases its exposure to cash flow issues, limiting their financial viability. The distribution of vehicle manufacturers across two States has led to a fragmented volume base for our Australian suppliers, which has impacted their ability to standardise their operations and increase efficiency. The impact of this fragmentation has been higher structural costs, which have weakened their financial position.

In general, the supplier base in Australia tends to have a shorter term focus, perhaps driven by the immediate financial issues, which can limit their potential as both a supplier of the domestic and export markets. This tactical approach to their businesses minimises the level of reinvestment in these organisations to carryout necessary R&D to build capabilities and increase their technical competitiveness.

Opportunities exist for suppliers to strengthen their knowledge of the requirements of overseas markets in order to be more competitive when tendering for export contracts. The competitiveness of the sector could be greatly strengthened by increased cultural awareness in the region. There are a number of opportunities for the domestic supplier base to take advantage of the linkages that organisations such as Holden have within the region and through GM's World Wide Purchasing organisation. The sector needs to take the initiative to realise these export opportunities and look for ways to develop global alliances in order to develop a critical mass.

In general, human resources expertise and associated development of internal resources is an opportunity for improvement in the sector. In addition, the component sector tends to have a significant degree of industrial relations difficulties which could be due to a number of factors. One of these factors is that they are being tactically used in relation to their much larger and more capital intensive customers, the OEMs. However, it is also possible that industrial relations skills in the sector could be enhanced. The unstable industrial relations climate will have a significant impact on the viability of these organisations in the future as ongoing investment by their parent organisations is placed in other countries in the region and OEMs look for alternative suppliers in order to provide certainty in their supply chains.

Workplace Reform

Q.22 How has the changing industrial relations/workplace reform environment affected automotive manufacturing? How have management and work practices changed? How do these compare to international industry best practice? To what extent would further improvements in work practices help the industry to cope with reductions in assistance? Are there factors impeding progress in this area?

The automotive industry has embraced the opportunities presented by industrial relations reform since the structural efficiency principle of the late 1980's. The parties have actively pursued Enterprise Bargaining Agreements since 1992 when the Industrial Relations Act and later the Workplace Relations Act provided this mechanism for negotiating wage increases and initiatives specific to the needs of the business.

There has been considerable attention in the succession of Enterprise Agreements given to productivity and efficiency initiatives to support the on-going viability of the business. Extensive consultation processes have underpinned these continuous improvement and change initiatives with a particular focus on involving the union delegates of the areas in which the initiatives are being implemented. In this regard, the Enterprise Bargaining focus has continued to deliver incremental change that has contributed to increasing rates of employee productivity.

Whilst consultation and focus on continuous improvement has continued to evolve over the past decade of enterprise bargaining, the industrial structure has remained the same with almost total union membership of Plant employees and the traditional union organising model structure. This has impeded a philosophical shift to a more "partnership" model of employee relations of mutual goals and interests as the traditional structure still tends towards a more "pluralist" or "adversarial" approach to employee relations. Nevertheless, the continued commitment and effort of the parties to the enterprise bargaining model suggests that over time, elements of a "partnership" philosophy can be developed and that this is more likely to occur in a practical way at the workplace.

Overseas study tours undertaken jointly have indicated that the automotive industry in Australia has adopted some degree of best practice but still lags behind in operational and employee flexibility. In particular, shift operations are still accented towards the traditional working week of Monday to Friday with relatively high shift penalties for afternoon and night shifts. With few exceptions, Saturdays are still regarded as overtime instead of being part of an ordinary time roster model and Sunday work at the penalty rate of double and a half is prohibitive even by Australian standards in other industries. Traditional demarcation based on the origins of craft based unionism still prevails significantly in the workplace and efforts by Holden to change this have been vigorously resisted by the unions, especially in the trades group. Although this is not unique to the automotive industry in Australia, (and in some instances globally), there is a significant opportunity to improve productivity and efficiency in the workplace by diminishing these traditional barriers. In the context of planned increases in both domestic and export sales, even aggressive productivity improvements will not negate the need for greater employment over time.

Post 2005 Assistance Arrangements

Ability to Operate with Lower Assistance

Q.23 Is the automotive manufacturing sector now at a stage where it could operate with comparable levels of support to other industries? If not, what benefits are provided by the industry to the economy that would justify differential treatment?

Over the two decades to 2000, successive Federal Governments have reduced the assistance provided to Australian industry. In the case of the automotive manufacturing industries, these policy changes have seen their effective rate of assistance being cut very substantially. According to the Industry Commission, by 2000 these policy changes had eliminated more than 90 per cent of the assistance that the automotive industries received in 1985. [19]

These Industry Commission estimates also show that the effective rate of assistance of the automotive industries in 2000 was approaching the rate for the manufacturing sector as a whole, with the exception of the textile, clothing and footwear industries. Moreover the effective rate of the vehicle assembly industry in 2000 was significantly less than that for the automotive component industry.

The Australian automotive industries have responded to reductions in assistance and the parallel pressures of globalisation in a myriad of ways. These have involved industry rationalisation, product rationalisation and specialisation, the adoption of new technologies, investment in research and development, improving management and work practices, increased investment and improvements in product quality.
Many of the changes wrought by the globalisation of and innovation in the automotive industries around the world are still unfurling. For example, 'lean thinking' has yet to reshape the downstream sectors of the automotive industries — automotive wholesale, retail, repair and servicing — to anywhere near the same degree that it has revolutionised automotive manufacturing.[20] However, the expectation that a revolution is coming remains.[21]

Globally there is substantial excess capacity in vehicle assembly and the major automotive markets of the North America, Western Europe and Japan are stagnant. Despite this bearish outlook, there is also ongoing investment in new assembly capacity as new players enter the market and existing players move to locations where costs are lowest and market prospects are more congenial, notably in the newly industrialising economies of Asia.

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[19] Industry Commission, *The Automotive Industry, Vol 1: Report*, Report No 58, 26 May 1997, p. 224.

[20] Womack, James and Jones, Daniel (1996), *Lean Thinking: Banish Waste and Create Wealth in Your Corporation*, Simon & Schustewr, New York.

[21] Raff, D (2001b, forthcoming), 'Internet-driven Innovation and Economic Performance in the American Automotive Industry', in *The Economic Payoff from the Internet Revolution*, The Brookings Institution, Washington DC.

Australian automotive production is very small by world standards and the local industries are still finding their place in the global market. The future of the Australian industries is as agile and flexible manufacturers of niche products in relatively small volumes. Nevertheless, the precise business models for success are still in the process of being developed and refined by the Australian businesses, as they do not exist anywhere else in the global automotive industries.

On top of this the Australian industries are still in the process of adjusting to the last round of changes in the automotive assistance regime. The industries are still accommodating their businesses to the most recent of the cuts in the automotive tariff that were implemented prior to 2000. Moreover, since ACIS has only been fully operational for just over a year, the adjustments by the industries to accommodate the new Scheme have really only just begun. Finally further adjustments are in prospect due to the planned cut in the automotive tariff from 15 to 10 per cent in 2005. Successful adjustments by the automotive industries to these assistance changes will, among other things, involve the introduction of new technologies and modifications to existing manufacturing processes. Such changes generally have substantial investments and long lead times associated with them, even if considerable efforts are being expended — both domestically and internationally — to shorten these lead times substantially.

At this stage, further reductions in the level of automotive assistance would run the risk of severely disrupting the domestic industries. Against a background of poor profitability, further reductions in assistance would increase the likelihood that the parent of one of the four vehicle assemblers would decide to cease domestic manufacture all together. Cessation would substantially reduce output volumes across the domestic component industry, which in turn would increase its unit costs and decrease its competitiveness. Unless the sector were able to expand its exports to replace the loss of domestic sales or to cut costs and to do so very quickly, there would be the real risk of business failure in the sector. This could even extend to the loss of a second vehicle assembler. Given the necessarily lumpy nature of rationalisation in the domestic automotive industries, there is a significant risk of any adjustment by the domestic industries substantially 'overshooting' the industry structure, employment and output that may be sustainable in the long term at the reduced assistance level.

'Overshooting' would increase the social costs of industry adjustment to reductions in assistance. These costs would manifest themselves in larger employment losses from the automotive industries. These losses would tend to be concentrated in regions of South Australia and Victoria that already have relatively high rates of unemployment. Displaced workers in these regions will face a lower probability of finding employment. In some cases, they will be unable to find work without relocating. Both of these features will increase the extent of the social costs associated with the adjustment process. Moreover, their existence underlines the social benefit of policy makers minimising the risk of policy-induced adjustment 'overshooting', thereby exacerbating the social costs of the adjustment.

In addition to the benefit of avoiding the short run adjustment costs, the automotive industries benefit the community as a whole due to their ability to generate beneficial spillovers to other industries, which are not reflected in the commercial returns to the automotive industries.

These spillovers are associated with their product- and process-related technological and organisational innovations associated with lean manufacturing. Since the late-1980s, the local assembly industry has been the focal point for the diffusion of lean manufacturing innovations to the rest of Australian industry. They have also been at the forefront of the diffusion of digital (or numerically-controlled) process equipment and robotics, automation of production control processes, concurrent product engineering using electronic data interchange, and just-in-time inventory management.
This combination of process and organisational change has been replicated by other industries, especially those involved in the integration of complex products using equally complex supply chains or networks.[22]

Impact of Tariff Reforms

Q.24 What level of automotive tariff is required beyond 2005 for a viable automotive manufacturing sector? Does this provide a case for Australia to reconsider its APEC commitment, or for singling out the automotive industry for special treatment ?

Holden's position is that the level of automotive tariff that is required beyond 2005 for a viable automotive manufacturing sector is 10%. The reasons for this view are outlined in some detail below.

With regard to the impact of this on Australia's APEC commitment, it is Holden's view that that commitment may need to be reviewed in light of developments that have occurred in trade policy and related issues since the commitment was made. In particular, the pace of market liberalisation particularly in ASEAN and other Asian markets has not occurred as rapidly as was initially anticipated. In the automotive sector in this region, a number of initiatives have been put in place to promote early liberalisation, including the APEC Automotive Dialogue, in which Holden has been a strong participant. It must be pointed out however, that some of the expected policy shifts have not taken place. These include:

- Implementation of AFTA, scheduled for 2003, will now exclude Malaysia until at least 2005. The possibility of other sectoral or geographic exclusions appears a distinct risk.
- Inclusion of Australia and New Zealand in AFTA has been declined by ASEAN
- Free Trade Agreements between Australia and significant Asian markets have not yet occurred.

Realistically, Australia's support for the Bogor commitment cannot be disproportionate to that of other major participants in regional trade. It will be of crucial importance to observe ASEAN's performance on intra-regional automotive trade post 2003, and the US's intentions with regard to their 25% import duty on light trucks, before the viability of the Bogor concept will become clear. Similar observations must be made with regard to the behaviour of numerous APEC members concerning agricultural trade. The Bogor

[22] See the examples given in Womack, James and Jones, Daniel (1996), *Lean Thinking: Banish Waste and Create Wealth in Your Corporation*, Simon & Schustewr, New York.

commitment must not be allowed to become a substitute for rational behaviour with regard to the national interest, in the event that other participants in the commitment fail to implement it. Implementation should be general, or it should not occur.

Q.25 What would be the impacts of automotive tariff reductions below 10 per cent on the industry, employees, regions, commercial and other users, with or without some other form of industry assistance? Given the inter-industry linkages, what would be the effect of changes in the number of firms in a particular industry segment?

Reductions in the automotive tariff to date have provided a stimulus to the industries improving their performance in terms of product quality, price, productivity, business innovation and export orientation.

However they were by no means the only stimulus to these improvements. The increasing globalisation of the automotive industries, favorable movements in exchange rates and the Export Facilitation Scheme and its replacement by the ACIS also made significant contributions to the achievement of these gains.

For these reasons it is an oversimplification to suggest that further reductions in the automotive tariff will automatically and readily generate similar performance gains. Indeed the smaller the gap between the automotive tariff and the general tariff rate, the smaller the gains that are likely to accompany any further reductions in the automotive tariff. Moreover further tariff reductions would in turn cut the rate of assistance that is provided by ACIS to the automotive industries in the form of the duty-free import credits. On the other hand as the gap narrows, further improvements in performance are progressively more difficult to achieve.

Successful adjustments by the automotive industries to further tariff reductions would require the introduction of changes to existing manufacturing processes that would involve substantial investment with relatively long lead times.

At this stage, further reductions in the level of the automotive tariff would risk severe disruption to the domestic industries with the likelihood that one of the four vehicle assemblers would cease domestic manufacture, with negative implications for the domestic component industry.

Given the necessarily lumpy nature of adjustment in the domestic automotive industries, there is a significant risk of the subsequent adjustment substantially ‘overshooting’ the industry structure, employment and output that otherwise may be sustainable in the long term at the reduced tariff. ‘Overshooting’ would manifest itself in larger employment losses from the automotive industries. These losses would tend to be concentrated in regions of South Australia and Victoria that already have relatively high rates of unemployment.

'Overshooting' would also reduce the ability of the automotive industries to generate beneficial spillovers to other industries, through the diffusion of lean manufacturing innovations to the rest of Australian industry.

The local assembly industry has been the focal point for the diffusion of these innovations. The local industries have also been at the forefront of he diffusion of digital (or numerically-controlled) process equipment and robotics, automation of production control processes, concurrent product engineering using electronic data interchange, and just-in-time inventory management.

These innovations in 'lean thinking' have been replicated by other industries in the economy, especially those involved in the integration of complex products using complex supply chains or networks. The benefits of diffusing this lean knowledge and know-how have not been able to be captured by the automotive industries due to the nature of the innovations in question and their lack of trading links with many of the industries in question.

Q.26 Were automotive tariff rates to be phased out by 2010 in line with APEC commitments, what phasing mechanism should be employed?

There are two concerns that should influence Australia's policy with regard to post-2005 automotive tariffs. First, it is important to retain the confidence of overseas investors – who tend to regard the tariff rate as a proxy for level of government commitment to the industry. Second, it is highly desirable to retain both flexibility and "negotiating coin" in connection with the Bogor goals. By retaining the 10% tariff level until 2010 other countries' intentions become clearer, Australia will improve both the prospects of actually achieving the Bogor goals throughout APEC, and the likelihood of avoiding being "wrong-footed" by the potential non-compliance of a number of other countries.

It follows from the above that Australia should freeze the automotive tariff level at 10% from 2005 through 2009, and announce that the 2010 automotive tariff level will be set when enhanced knowledge of the intentions of others is available.

Q.27 What would be the respective impacts of automotive tariff rates of five per cent or zero in 2010? What further industry changes would be necessary to allow the industry to be viable in either of these circumstances? How many domestic producers would be viable under these scenarios? How would this change if the end point was 2015?

The automotive tariff rate is a means of delivering assistance to the industry and in that sense could be interchanged with other forms of assistance without economic impact on the industry. Hence it is not highly rewarding to focus on the tariff rate in isolation.

In the past six years the annualised standard deviation of the daily change in the A$ exchange rate against the yen, US$ and Euro has averaged more than 10% in each case. In other words, random currency fluctuations vary the industry's competitiveness by as much as the 2005 tariff rate. While short term fluctuations in the exchange rate

average out to zero bet effect, they nevertheless have an adverse effect both on “lumpy transactions such as plant investments”, and the sentiments of overseas investors. This is especially true of longer term changes in currency value. To illustrate the point capital investment projects must be justified in terms of projected forward exchange rates at the time of project approval. Where actual exchange rates are significantly different, project returns may be disappointing. While the capital costs themselves can be “hedged” (at a price) this is not true of the ongoing project cash flows, which must ultimately be reported to head office in the parent companies currency. It must be recognised that particularly in respect of currency values, the Australian automotive industry lives precariously, and part of the role of the tariff is to provide a minor degree of insulation from random cold winds. A stable currency would be the preferred solution but in the absence of that, the tariff is welcome.

The automotive tariff has an important symbolic role in sending a signal to the global auto industry that Australia is a country that intends to be a friendly environment for car production. The highest level of executive in the global industry takes such symbols very seriously. This is important in an industry that is courted assiduously by a large number of national governments.

Small non-zero tariff levels, such as five per cent, serve a useful function in discouraging what would otherwise be unmanageable swirls, ebbs and flows of automobiles around the world in response to short term variations in exchange rates. Because auto production is a capital intensive industry in which financial commitments of long duration must be made routinely, some kind of damping of this type is a very important stabilising factor in the industry. The alternative would be a succession of highly contentious anti-dumping cases, which would not only be wasteful and inefficient, but also almost inevitably too slow to provide a viable solution to the problem.

It follows from the above that a five per cent tariff has important advantages over a zero tariff. However to make even a five per cent tariff appropriate, would require the industry to have progressed somewhat further along the path to international success than will have been achieved by 2005. Viability on that level requires that the industry’s ability to conceive and execute highly innovative new products, based on a common platform, at low investment and in a very short time, must be at the cutting edge of world practice and aspiration. This requires a quantum leap of commitment to in-house engineering by the Australian industry. While substantial and highly skilled engineering departments exist, the achievement of viability at negligible assistance levels requires considerable additional capability. In particular:

- World-class product innovation must be delivered regularly and routinely. This has not been a key success factor in the past, and implementing it will require some structural changes in the way that product initiation occurs, including additional staff and facilities.
- Engineering capability generally must be expanded, to support the larger range of product variants required to capture a larger share of the domestic market.
- Manufacturing capacity must be enlarged to provide the larger output volumes required to achieve greater economies of scale.

In terms of national policy, the achievement of the required export volumes involves improved market access. In particular, major reductions in barrier protection on both sides will be necessary for trade to be viable with the US and ASEAN. Free Trade Agreements would be greatly preferred, since they are likely to provide both greater surety, and the prospect of privileged access.

Realistic attainment of the goal of industry viability at negligible assistance, thus requires that progress be made on several fronts:

- As a transitional arrangement, appropriate government support will be needed for both R&D and plant investment.
- Various economic reforms represent an essential part of "getting the lead out of the saddlebags". These range widely but would include reconsideration of burdening the motor vehicle industry selectively with unreasonable stamp duty charges, and of the desirability of levying payroll tax on export industry in general.
- Market access issues must be resolved, so that the auto industry is not faced with the unrealistic need to somehow sell its products competitively into markets that levy import duties of 80 per cent or more.

It is not appropriate or reasonable for Holden to speculate on the conditions under which other auto companies would be viable. However with regard to its own capabilities, the issues, targets and programs set out above reflect Holden's strategic plans and targets. Hence it is considered that in the context of an appropriate transition plan as described above, the end point would establish Holden in a position to compete internationally with negligible (five per cent tariff level) assistance. Furthermore this transition could potentially be achieved by 2015, provided the necessary steps including the market access changes, were in place by then.

Q.28 Would further reductions in motor vehicle tariffs need to be accompanied by some other ongoing industry support mechanism?

In an environment where the domestic market is not growing, the best prospects for export still contain significant barriers to entry. In addition, a less than favourable economic outlook would indicate that the industry would not be able to shoulder the burden of a further reduction in tariffs beyond the agreed 10 percent.

The following discussion examines the two main reasons to maintain tariffs at 10 percent for the foreseeable future: the maintained barriers to entry of Australia's main trading partners and adverse economic export conditions. Reducing tariffs to below 10 percent would require such a costly and unfeasible support mechanism to maintain a local industry in the current international trading environment that such mechanisms will not be considered in this discussion.

Barriers to Entry in Potential Export Markets

The Australian automotive industry has over past decade considerably improved its competitiveness in step with tariff reductions. While Australia has made strong commitments and initiated progressive change towards developing an open market, Australia's regional trading partners have not made the same concessions.

Consequently, the global market still contains a broad range of tariff and non-tariff barriers restricting free and open trade. Therefore, Australia's automotive industry is not competing on a level playing field against a significant number of its major trading partners. This is a significant issue for industry, as the Australian domestic market does not show potential for growth. Consequently, the only opportunities for sales expansion are in additional export markets and import replacement through penetration into additional market segments.

Unfortunately, within the present environment, some of Australia's best opportunities for exports are to markets that have significant tariff and non-tariff barriers to entry. Moreover, Australian does not have Free Trade Agreements with any significant automobile markets or trading blocks. This makes the opportunities needed for Australian manufacturers to remain viable even more difficult to obtain.

Prima facie, inclusion of Australia into trading blocks does not look like improving in the near future. The Japanese Ministry of Economics, Trade and Industry (METI) are widely reported as supporting Japan forming a free trade zone known as the "ASEAN plus Five" free-trade deal. Unfortunately for industry, Australia is not currently included in the plans. Regardless of whether this plan proceeds or not, it is a clear indication of the enormity of change that Australia must overcome to obtain free regional trade in the future.

Adverse Economic Conditions

Since 1986, the Australian automotive industry has been somewhat shielded from the full impact of tariff reductions because of a weak Australian dollar against the major currencies (particularly the Japanese Yen). In addition to the maintained trade barriers within potential export markets explained previously, the current economic environment is also not supportive of further tariff reductions. With most forecasters believing that the Australian dollar will strengthen against major currencies, any subsequent reductions of tariffs beyond 10 percent will be difficult for the industry to shoulder.

Consequently, by facing a strengthening Australian dollar and a regional export market that has not substantially reduced its barriers to trade, the Australian automotive industry is not able to complete further adjustment at a tariff below 10 percent without some form of transitional government assistance.

Q.28 In the period between 2005 and 2010, is there a case for changing the current tariff arrangements for LCV and 4WD vehicles? Is there a need to amend the $12 000 specific tariff on second hand vehicles?

Holden supports the concept that special purpose off-road vehicles and LCVs for use in activities such as agriculture, mining and transport of goods should not be burdened with the passenger car rate of tariff. At the same time some four-wheel drive vehicles are simply used as passenger car substitutes, and we believe these vehicles should be treated as passenger cars. Government considered this subject more than twenty years ago and the result was the Customs rule we now have, which sets criteria for vehicles that receive the concessional low rate of tariff.

The criteria were designed to separate serious off-road vehicles from other types of vehicle. They focus on matters such as ground clearance, approach and departure angle. However in recent years a new type of light duty, all wheel drive vehicle has become popular, which looks rather like an off-road vehicle but lacks the heavy duty features to make it truly effective in that role. Because these cars look like off-road vehicles, they meet the criteria being used to administer the concessional duty rate.

Holden would support a limited application of a higher tariff for imported 4WD vehicles that do not use Body on Frame construction, at a rate comparable to that used for passenger vehicles. The Body on Frame 4WD vehicles perform a true off-road function, while it can be argued that Monocoque vehicles are not usually purchased for serious off-road use. The imported 4WD vehicles utilising Body Frame Integral construction design are direct substitutes for passenger vehicles and the 4WD features of these vehicles are incidental to the consumers' use of the vehicle.

It is timely that consideration is given to updating the Customs rule to regain the ability to differentiate between genuine heavy duty off road vehicles, and light duty all wheel drive recreational vehicles. Tariff equalisation between passenger and 4WD/AWD vehicles, which would not discriminate against off-road work vehicles, is the right approach and may favour an increase in the opportunities for local manufacture of other AWD and 4WD vehicles. This need not impose any additional burden on industry or farmers, but it can reinstate the true intent of the concessional duty rate.

In regard to the specific tariff and other restrictions on imports of used passenger vehicles, regulated under Australian safety standards, Holden supports the maintenance of this arrangement.

ACIS Effectiveness and Future Assistance Arrangements

Q.29 How effective is ACIS in meeting its objectives? Has it had any unintended or undesirable impacts? What are the impacts on each of the four classes of program participants? Is there a case for extending a similar scheme beyond 2005? If so, would modifications to the current scheme be required? Would there be a case for a different form of industry-specific arrangement under a very low or zero tariff environment — where it would seem necessary to de-link assistance from the tariff rate?

The Automotive Competitiveness and Investment Scheme (ACIS) took effect on January 1, 2000 to provide the Australian automotive industry "WTO friendly" transitional assistance in the lead up to a 33% reduction in tariffs in 2005. While the theoretical intent of the scheme was generally sound, the first year of the scheme's existence has highlighted several fundamental flaws. These flaws not only make the existing model inappropriate to carry forward post 2005, but also seriously lessen the benefits to be delivered by ACIS in its remaining years.

The following discussion intends to examine three related areas in response to the Productivity Commission's questions:

- The impact and effectiveness of the existing ACIS support program.
- An examination of the current Australian automotive policy environment - the case for extending assistance post 2005.
- The form and function of the post-2005 assistance program.

The Impact and Effectiveness of ACIS

The objectives of ACIS encompassed an agenda to support investment and innovation in the automotive industry and assist the industry to increase its competitiveness in an environment of reducing tariffs. The mechanisms developed to provide ACIS support were blunt yet met the driving need to satisfy WTO requirements.

From Holden's perspective, ACIS has provided the necessary impetus for large-scale capital investment in Australia including the new High-Feature V6 Engine plant at Fisherman's Bend, and the new VE Commodore. Holden also successfully secured R&D business for other GM entities against competition from other GM engineering centres. Additionally, the scheme assisted in increasing innovation at Holden through the development of the exciting VU Sports Utility and the highly successful Monaro Coupe. Both products have captured the attention of overseas markets (particularly the US) and are currently under active investigation for inclusion in future export programs at significant volumes.

As a result of the current flaws within the existing scheme, such successes may not be reproducible during the remainder of ACIS. The instigation of modulation and the

downward trend in the rate of modulation will have an effect on planned capital investment at Holden.

When ACIS was initiated, the budgeted $2.0 billion across the program was based on forecasts provided by the industry participants. The notional split of funds between the participants was $1.3 billion to the Motor Vehicle Producers (MVPs) and $0.7 billion to the remaining industry "supplier" participants. The relative splits were determined at that time to be in proportion to the size, contribution and planned activities of the associated parties. Upon commencement of the scheme, the supplier participants increased their business plan forecasts by 86% to $1.3 billion while the MVPs maintained essentially the same forecast (sales growth and higher capital expenditure increased the forecast marginally to $1.4 billion). While the trend for MVPs to transfer more of the development activity to the ACPs explains a small part of the shift in benefits, it can be argued that this has gone too far and that the relative benefits are no longer in proportion to the size and contribution of the two industry sub-sectors. As a result of the over allocation of the scheme, modulation was initiated to ensure that spending did not exceed the cap of $2 billion.

Modulation has had a significant impact on the benefit that was intended to be provided to the MVPs. Modulation rates were 0.75 for Q4 2001 and are currently 0.71 for Q1 2002, reducing the expected total assistance to MVPs over five years from $1.3 billion to less than $1 billion. In Holden's case, modulation has had a significant impact on the business cases for a number of programs, and future programs may be in jeopardy - especially if the rate of modulation is further reduced. In contrast, even post modulation, participants other than the MVPs have achieved a net increase in their expected benefits from the scheme at the expense of benefits expected to be delivered to the MVPs.

While recognising the need of government to both protect the revenue and achieve certainty in the forward projections, it is Holden's view that modulation in its present form represents a singularly poor mechanism for the purpose. There are two reasons for this:

- First, once the modulation cap is reached the allocation of benefits under ACIS acquires the character of a "zero sum game". Games theory indicates that the appropriate behaviour for industry participants changes markedly under these conditions, in particular if it is believed that any business initiative will provoke a commensurate, competitive response within the ACIS time period, the interpretation is likely to be that no competitor will achieve any ACIS reward from the new initiatives. All that will happen is that the modulation rate will fall further. This psychology would appear directly contrary to what government intends to promote.
- Secondly, it is impossible to predict future modulation rates and hence there is severe uncertainty as to what level of support a project may receive. This uncertainty creates difficulties in project analysis and in particular, in winning the support of overseas parent companies for any given project.

As a result of the uncertainty of outcomes that has resulted from the current structure of ACIS assistance arrangements, Holden recommends that future assistance be delivered in a way that allows the benefits to be "quarantined" between the participants. That is, policy should determine the maximum extent of assistance to each activity (production,

investment or R&D, for example) in each sub-sector. Funding for that activity and sub-sector should then not flow into other activities or sub-sectors.

Holden understands that compartmentalisation of benefits, as proposed will inevitably create difficulties in both allocative efficiency and equity between participants. The proposed division of assistance in this way would of course be unnecessary if alternative means were available to prevent the unexpected and undesirable outcomes that have occurred under the current ACIS. However, in our opinion the negative effects of creating a "zero sum game" scenario greatly outweigh the negative features of compartmentalisation.

The Current Australian Automotive Environment: The Case for Continued Assistance

Duty Free Allowance

Currently there is an imbalance between the levels of assistance provided to the industry's two main sub-sectors (motor vehicle production and component production). Component production has a lower rate of assistance applied to its inputs (raw materials, mostly duty free or dutiable at 5% or less) than to its outputs (motor vehicle components, dutiable at 10% in 2005), while motor vehicle production has the same rate of assistance provided to both inputs and outputs (10% in 2005). Unless specific interventions are made to overcome this, the result is inequitable and inefficient policy. Generally we would expect to see similar Effective Rates of Assistance (ERAs) provided to the two sub-sectors, so that there will not be inefficient resource allocation and a sub-optimum outcome.

Historically, an approximation to equal ERAs was achieved by providing a Duty Free Allowance (DFA) to the motor vehicle producers. This permitted a small part of their total value of production to be imported "duty free", thus creating a cost saving which boosted their ERA to an appropriate level. An alternative would have been to have a lower rate of import duty applicable to components than to complete passenger cars, but for policy reasons the DFA was adopted instead.

In recent years the Commission has noted that the ERA accruing to component production has been significantly higher than that provided to motor vehicle producers. This situation should be corrected, in the interests of efficient industry development. Because the DFA is effective and seemingly efficient, it is proposed that the required adjustment be made through the mechanism of an expanded DFA. This would enable the continuation of the common nominal tariff rate on cars and components.

Holden understands that economic theory suggests that it would be more efficient to adopt a lower duty rate on components than on cars as a means to equalise assistance rates to cars and components. However, we believe there are two reasons not to proceed in this way:

- It is our expectation that it would be difficult to achieve a widespread acceptance among component producers that a differential duty rate was fair and equitable. In

our experience a harmonious relationship between the two sectors of the vehicle industry supports better efficiency and commercial outcomes.

- The application of a DFA to export vehicles can permit aligning the rates of assistance to export and domestic vehicles. If a differential duty rate were applied, on the other hand, this would generate assistance to vehicles sold domestically only and therefore assistance rates would be significantly unequal between export and local consumption products.

Up to the present, the DFA has been applied only to locally produced vehicles sold in Australia: exported vehicles did not receive this form of assistance.[23] The reason for this situation seems to be historic. Since no import duty was payable on components for vehicles that were ultimately exported, it was presumably considered that there was no need for a DFA to accrue to exports. However in today's international environment this is no longer appropriate policy, for two reasons. First, the WTO regards the DFA simply as a production subsidy, and this makes the subject of duty payments on imported components irrelevant. Second, the present situation is anomalous in terms of logic: a production subsidy is provided on vehicles for domestic consumption, but is denied to vehicle exports. This creates a negative incentive to export. Economic rationality dictates that policy be indifferent toward whether goods produced are consumed domestically or exported. Furthermore, WTO rules permit the DFA to be applied impartially to domestic and import consumption, since they treat this form of assistance as a simple production subsidy.

It is proposed that the DFA be retained at its current rate of 15% of Value of Production, but applied at the same uncapped rate to export production as well as domestic sales. This will both overcome a logical defect in existing policy, and help to overcome the existing inequity caused by component production having a higher ERA than passenger car production.

Other Assistance to Production

The Australian domestic vehicle market is expected to increase in size in approximate proportion to the overall increase in population of slightly more than one per cent per annum for the foreseeable future. Consequently, local manufacturers face a difficult task in securing substantial additional volumes based on their limited platform range. Importers have taken advantage of steadily reducing tariffs to increase their market share at the expense of locally manufactured vehicles. While local manufacturers have increased their competitiveness substantially during this period, the breadth of imported products has meant that the market share held by domestic production has been progressively eroded based on factors other than price. That is, import-driven fragmentation of market segments continually erodes the share of market held by domestic manufacturers. There is a need for some transitional government support to enable a structural change in the industry in response to this development.

[23] ACIS seeks to overcome this anomaly but is only partially effective. Locally made cars sold domestically benefit from a 15% DFA and a 10% ACIS production bounty, totalling 25%. Export vehicles receive a 25% production bounty under ACIS. Unfortunately, when modulation occurs this applies to only 10 of the 25 points of production bounty for domestic vehicles because DFA is "uncapped", whereas modulation applies to the whole 25 points for export production. In other words, modulation produces a greater assistance level to accrue to domestic production than to export production. This is hardly in the spirit of either WTO rules or the government's intent.

Australia has supported the concept of free and open trade with the automotive industry subject to “negligible” tariffs by 2010 as part of the Bogor agreement. Unfortunately for the local automotive industry, the majority of Australia’s major trading partners and best export prospects have not matched the market openness found in Australia. This has been covered in detail in earlier parts of the submission.

With a diminishing share of an almost static domestic market, local producers have had to look at import replacement opportunities and additional export markets that will allow expansion of local production to a level that can support the complex value chain needed to locally produce vehicles in Australia. In the case of exports, while there are a number of examples of successful initiatives, Australian manufacturers are competing in a highly competitive trade environment, in which interventions by various governments are commonplace.

To support the expansion of domestic production into new export markets and additional domestic market segments, significant investment in R&D and associated plant and equipment is required. Proposals for constructive and realistic government support for this new industry direction are a core theme of this submission.

Holden commissioned Access Economics to assess the possible economic impacts resulting from a change in the way assistance is provided to the automotive industry after the current ACIS expires at the end of 2005. The essence of the change as it applies to the MVPs is to transfer emphasis to support for R&D expenditure. The details of this analysis can be found in Annexure A.

The modelling results support Holden’s view that it is more effective and efficient for government assistance in the automotive industry to be provided in the form of targeted R&D support, than through a simple production subsidy. The results of the modelling show the main direct benefits on the macro economy from Holden’s proposal. These benefits come from business and R&D spending which flow on to additional production, increased exports, import replacement and lower cost to consumers for the additional type of domestic vehicle that is introduced (4WD models, in the case analysed).

For analytical purposes the Access modelling has shown the transfer of all production based assistance into R&D based assistance. That is both capped ACIS production bounty and DFA were considered to be converted into R&D subsidy. For reasons explained above, Holden recommends that the DFA be retained and indeed expanded by being applied to export production. Hence the case considered by Access involves an even greater stimulus to R&D than that recommended by Holden. Nevertheless, the modelling has shown that through just one manufacturer (Holden) introducing one new model through the agency of government support for R&D, in the final year of the program, GDP is A$1.2 billion above the baseline in today’s dollars, while private consumption has increased by A$710 million. The additional labour employed is 6,800. For a budget neutral change in the form of assistance, the modelling has shown substantial benefits for the economy.

The Form and Function of Automotive Industry Support Post-2005

The form of the required post-2005 assistance must be considered and developed in the context of the problems of the existing ACIS and the new challenges the industry is facing as it prepares to aggressively grow export markets. The instruments for directing and distributing assistance provided by ACIS will by themselves not be adequate to meet the transitional requirements of an industry that must increase output to ensure future survival.

Future assistance should be directed towards creating a supportive business environment without imposing unnecessary burdens on other industries or the overall Australian economy. The scheme should be built around four guiding principles:

1. The elimination of unexpected outcomes between various areas of the scheme: The reduction of benefits received by the MVPs from ACIS can not be repeated if confidence in capital investment in Australia is to be maintained.
2. Ensuring the scheme can be made common to both the MVP and Supplier sectors of the industry: Given the symbiotic relationship between the local auto manufacturers and auto suppliers, one scheme driving a common outcome is needed.
3. Benefits are provided to all participants across the cumulative value of the scheme: Given the vast differences between the MVPs and suppliers and even the differences in the stages of development between the four MVPs, no one scheme could possibly be built that will completely satisfy all the stakeholders. However, it is important that each participant receives benefit across the cumulative value of the scheme.
4. A scheme is delivered consistent with Government intent: The scheme should provide and deliver benefits consistent with Government policy intent and provide tangible benefits to the overall economy to allow it to be politically supportable.

One of the most conspicuous and intractable strategic needs the industry faces is the requirement to increase the number of vehicles manufactured from a common platform. There are four fundamental business areas that should receive targeted assistance to facilitate this growth: Product Design, Manufacturing Technology, Marketing Innovation and Demand Generation.

Therefore for the Australian automotive industry to remain viable, the basic structure provided by the ACIS scheme (with some improvements) should be supplemented with targeted assistance that improves the four fundamental areas of business.

Various enhancements are needed within the basic structure of ACIS for post-2005 assistance reforms to be effective. In line with Principle 1, the unexpected funding outcomes that have occurred in the first year of ACIS can be minimised by dividing the ACIS budget into two parts: R&D Subsidy, and Capital Investment Credits. The expanded Duty Free Allowance (DFA) proposed above will permit the elimination of the Production Subsidy portion of the core of ACIS itself, with the funds thus released becoming available for redirection into the other two parts of the scheme. Each part will

operate as it currently does within ACIS, with further enhancements based on the learnings obtained from the current scheme.

The automotive industry has access to a generally available R&D Tax Concession scheme. Motor vehicle producers also receive credits for contract R&D (that is, R&D carried out under contract to other parties) through ACIS. However, the R&D Tax Concession scheme tends to provide the industry with modest rewards (an additional 25% tax deduction, in the context of a 30% corporate tax rate, is only worth 7.5% as a subsidy).

It is recommended that post 2005, motor vehicle producers become eligible to receive a substantial R&D subsidy through a scheme that replaces ACIS. This assistance should specifically apply to R&D carried out on their own behalf. It is possible that policy difficulties will arise in providing two simultaneous subsidies to the same activity (the general R&D tax concession, and the ACIS replacement scheme). If this should occur, it is essential that the rate of subsidy provided under the ACIS replacement be "grossed up" for the amount of the tax deduction foregone through losing eligibility for the general scheme.

Successful innovation is the only available route by which the local vehicle industry can win back market territory lost to imported vehicles in (for example) the growing "4x4" and "people mover" classes. The intent is for Australian manufacturers to develop highly innovative vehicles that create new segments for the Australian domestic market (with the benefits of import replacement) and highlight strong export opportunities.

In the proposed ACIS-replacement scheme, greater subsidy rates should be provided for increasing levels of innovation. Credit needs to be given for concept development as well as product development. To assist in reducing the risk of investing in highly innovative R&D initiatives, the scheme should also provide credits for the costs of market determination / market research to ensure adequate understanding of the potential opportunities. Four tiers of product innovation could be used to align assistance with business success drivers, with increasing level of subsidy for increasing levels of innovation as outlined below:

- Model Enhancement – update of an existing vehicle targeting the same segment
- "All-New" Vehicle – new vehicle structure and exterior targeted at the same segment as a locally made predecessor
- Additional Australian Vehicle – unique locally designed vehicle which targets a segment currently not in local production by the company
- High Innovation – locally designed new vehicle concept for local manufacture targeting a segment previously unknown in the world.

The automotive industry also faces several challenges in manufacturing technology issues. One of the barriers to export is the requirement to produce different vehicle configurations for different markets. A new form of manufacturing assistance is proposed, aimed at supporting flexible processes and tooling. Assistance for the costs of initiating cutting-edge manufacturing equipment (and the engineering and maintenance

associated with the installing the equipment) is needed to help launch Australian manufacturing in this direction.

Like the proposed new R&D support mechanism, the enhanced capital investment assistance scheme would apply differing levels of subsidy based on the type of investment:

- "Like-for-like" investments that maintain current capacity and productivity levels would attract the lowest rates of assistance
- Investments that increase capacity will attract a higher subsidy rate (the incremental investment needed above a "like-for-like" replacement would attract the higher rate)
- Australian industry should also be rewarded for taking technical (and business) risks that increase the productivity and competitiveness of their Australian manufacturing operations. Consequently, any replacement of equipment with the "next generation" or more highly productive equipment would attract a higher rate of subsidy than a "like-for-like" replacement.

In summary:

- While the overall intent of the ACIS scheme is generally in line with meeting long-term policy objectives and industry needs, unforeseen issues have resulted in the scheme not delivering expected benefits. Uncertainty surrounding modulation and a bias towards domestic production are the two major problems associated with the first year of ACIS.
- In the context of an increasingly competitive and almost static domestic market, Australian automotive manufacturers are increasingly looking to export markets to secure the needed volumes to remain viable. Unfortunately, Australia's best export opportunities have generally not embraced "free and open trade" policies and continue with both tariff and non-tariff barriers. In this global environment, a "negligible" tariff does not mean a zero tariff. Moreover, with the Australian dollar forecasted to strengthen, further limiting export opportunities, the Australian automotive industry is not yet ready to complete its transition without Government assistance.
- Equity between the vehicle and component makers requires similar ERAs for these sub sectors. This is best achieved by providing identical tariff rates but allowing car makers a sufficient DFA to achieve the equity objective. At the same time it is important to provide similar assistance levels to vehicles exported or sold domestically. This implies that the DFA should apply equally to both and be uncapped in both cases.
- Post-2005 assistance should be developed within the context of the challenges and changes the industry must make to be viable beyond 2005. To this end, the basic ACIS principles (with minor improvements to overcome inherent shortfalls) should be supplemented to provide industry assistance across the fundamental business drivers: Product Design, Manufacturing Technology, Marketing Innovation and Demand Generation.

- Post-2005 assistance would provide increasing support for "own-use" R&D that rewards high levels of innovation and technical risk. Capital investment should be supported preferentially towards increases in capacity and improvements in productivity above a "like-for-like" replacement. Only through such competitiveness and product improvements can the local industry hope to claw back domestic market in the growing 4WD segment and find crucial new export niches to develop. Holden recognises that a multi-level assistance regime such as this will involve more administrative burden than a simple scheme. In our view the feature is nevertheless well justified by its superior capacity to deliver a highly effective response at minimum cost to revenue.

Trade Liberalisation and Export Profitability

Q.30 What would be the short and long-term impacts of trade liberalisation of the automotive sector in current and potential export markets for Australia? Are Australian automotive exports currently profitable in their own right or dependent on continuing government support?

There are no export markets in which Australia currently receives the benefit of preferential trade arrangements, and hence there is no market where Australian producers would be adversely affected by across the board trade liberalisation (indeed Australia would benefit when compared with its current situation). What is more of a concern, is whether actual or potential trading partners will strike trade agreements with other countries and thus exclude Australia. As an example of this, Holden's strategic aims would be advanced by a Free Trade Agreement (FTA) between Australia and ASEAN. In recent times this concept has been rejected by ASEAN, which has since then initiated trade talks with China. The position with trade alliances tends to be that they are good for those on the inside and bad for those on the outside. Hence from Holden's and Australia's viewpoint, it appears the best outcome would be to obtain preferential agreements with strategically selected partners. Second best would be generalised trade liberalisation. In the former case, the risk of becoming disadvantaged in non-strategic markets due to trade agreements that excluded us, is likely to be less significant than the fact that we had preferential arrangements in the truly important markets. In principle this preference order (bilaterals preferred to multilaterals) would be reversed if Australia saw itself as a purveyor of undistinguished commodities to the world at large. However to the extent that we are a specialist producer of differentiated products for which there are few significant markets, *and* we can expect to succeed in obtaining the right bilateral agreements, the bilateral preference is likely to stand.[24]

With regard to the profitability of export markets this tends to depend on the current state of a highly volatile exchange rate, and the market concerned. Holden's export business in total is fully viable, and generally comparable in attractiveness to domestic sales. However this could change quickly with trading conditions, since in the home market we are assisted by a strong brand and distribution network, while in overseas markets we are at the mercy of other, less dominant branding and distribution circumstances. A broad answer to the profitability question, then, would be to say that we are at a very

[24] Clearly it would be necessary to make quantitative study of the various trade goods and markets before this view could be asserted with any confidence.

early stage of export market development. We are currently succeeding well on the back of a weak A$. Our strategic aim is to strengthen our position sufficiently to have some capacity to deal with a stronger A$ eventually.

Influence of Past and Current Assistance

Q.31 How have previous and current assistance arrangements influenced the structure, competitiveness, investment decisions and performance of the automotive manufacturing industries? How have these arrangements affected related industries (eg motor vehicle retailers and service providers), commercial users and consumers?

Holden accepts that the previous and current assistance arrangements have had a significant impact on the structure and performance of both the vehicle assembly and component manufacturing industries in Australia.

The high levels of assistance provided to the industries for the 1970s and most of the 1980s had contributed to the development of a fragmented and geographically dispersed manufacturing base that found it difficult to achieve scale economies. Productivity and product quality were relatively low by global standards. The domestic producers were focussed on what was a relatively small domestic market with, at best, modest growth prospects — rather than on looking to exploit international opportunities for growth.

The progressive reductions in tariff assistance that commenced with the Button Plan have contributed to the subsequent rationalisation of the industries and the transformation of the assemblers and many of their component suppliers into major exporters. In doing so the industries have achieved significant productivity improvements since the late-1980s and key strategic decisions have been made in order for the industries to improve their competitiveness in a global marketplace.

Key changes in the structure, competitiveness, investment decisions and performance of the automotive manufacturing industries have included:

- Improvements in the quality and reliability of locally produced automobiles. This has involved the gap in quality and reliability between imported and locally produced automobiles largely being eliminated.[25]
- Rationalisation of the industries and their activities. In the case of the vehicle assemblers this has involved a reduction to four assemblers, each operating one assembly plant and collectively producing five models.
- Development of niche export markets. The domestic assembly industry has successfully specialised in the upper medium segment of the domestic market and this has allowed all four to export their products to a range of niche markets around the world to an increasing extent.

[25] Industry Commission, *The Automotive Industry, Vol 1: Report*, Report No 58, 26 May 1997, p. 69.

- Changes in the management and work practices. The changes in management culture and entrepreneurial attitudes in the industries mean that they have become more outwardly focused.
- Significant investments in new production equipment and technologies such as computer aided design, robotics, numerically controlled machinery and laser equipment.
- Increased investment in research and development.
- The introduction of lean manufacturing techniques involving just-in-time delivery and production, improvements in inventory management and more flexible and co-operative approaches to work.
- Increased focus on skills training in the automotive industries.
- Major improvements in productivity in the industries. As the 1997 Industry Commission inquiry demonstrated, multi-factor productivity grew at 2.5 per cent per annum between 1988-89 and 1996-97. Labour productivity has doubled since the mid-1970s, outperforming the rest of manufacturing.[26]

While the reduction in tariff assistance has been an important factor in sharpening the focus of the industries in their drive to become internationally competitive, it has only been one factor.

The process of globalisation in the automotive industries has been and continues to be a major driver of their rationalisation, both in Australia and elsewhere. The global automotive industries have consolidated into ten major global automotive groups and mega-suppliers of components and assemblies are emerging.

The increased competitiveness of the domestic automotive industries has also been assisted by favorable movements in the exchange rate and, to a lesser extent, by microeconomic reforms in others sectors of the economy.

Nevertheless the domestic industries are still adjusting to the pre-2000 changes in assistance. For example, the ACIS scheme is in its infancy and the industries are still accommodating their business plans to it. In part these delays are due to the relatively long leads and lags in the introduction of new technologies, manufacturing processes and models. The investments that are required to accompany these sorts of innovations are necessarily lumpy.

We would also observe that the phased approach to reducing assistance and changes to the form of assistance has provided the opportunity for the industries to adjust and to improve their efficiency. Without a carefully planned and graduated approach, this opportunity — and much of the domestic automotive industries themselves — would have simply disappeared.

By providing a realistic opportunity for the industries to adjust and improve their efficiency, the phased approach to assistance arrangements has also benefited related

[26] Productivity Commission, *Microeconomic Reform and Australian Productivity: Exploring the Links,* Commission Research Paper, Vol. 2: Case Studies, p. 69.

industries and consumers. Consumers and industries that use automobiles to produce their own output have reaped the benefits of progressive reductions in motor vehicle prices, whilst at the same time the potentially massive costs of dislocation to the manufacturing sector of the economy and to regional economies have been mitigated. It also needs to be recognised that productivity improvements become progressively more difficult, not easier, to achieve. Much of the 'low-hanging fruit' in productivity enhancement has already been picked within the industries.

While the reductions in industry assistance to date have provided a stimulus to improving the performance of the industries, it is an oversimplification to suggest that further reductions in assistance will automatically translate into similar efficiency gains. More realistically the smaller the gap between the assistance given to the automotive industries and the rest of the manufacturing sector, the smaller the benefit to consumers and downstream users of automobiles from eliminating that gap.

Q.32 How has the industry adjusted to tariff reductions from 30 per cent to 15 per cent since 1994. What impact has this change had on profitability, prices, costs and efficiency?

The price competitiveness of the Australian industry is primarily driven by the A$ - yen exchange rate. The average rate in 1994 was 74.68 yen per A$, and the average rate in 2001 was 62.87 – an improvement in Australia's competitiveness of 15 per cent. Hence in that period the change in import duty has been fully offset by a change in exchange rates.

More broadly, there have been some changes in the strategy of the companies in the years between 1994 and the present. In particular, the past practice of simple head-to-head competition based on what were viewed as largely undifferentiated products, no longer prevails. Holden in particular devoted considerable time and attention to all aspects of brand management, and concluded that we should concentrate on adding product features centred on our brand values. It was considered that this would be a more value-adding approach than meeting all competition on common ground. This was especially true if that ground were not be well aligned with the distinctive features our brand promised. Holden's business success since that time suggests that the market agrees with us.

The strategic conclusion that has driven Holden's positioning in the market is an inherent part of the total business strategy. To exist as a fairly small volume (180,000 per year target) manufacturer of a unique vehicle platform, Holden must achieve substantial value-added as a brand or product proposition. A market positioning as a commodity product would not be consistent with this strategy. As a result of this Holden has focused on achieving an understanding both inside and outside the company of just what are the specific values and characteristics promised by the brand, and ensuring that the product demonstrates these values and characteristics.

The Commission's choice of the year 1994 as the beginning of the comparison period is of interest, since by that year Holden had identified, and to a substantial extent accomplished, what had to be done to become physically competitive as a car

manufacturer. The process of becoming a world class brand-manager, however, was in an early stage. The outcome of our transition to brand management was made evident by the product evolution that occurred with the VT model in 1997. This was when the company moved from offering a product targeted at meeting competitive product offerings at a competitive price, to offering a product, which met our brand promise, and asking the market what it was worth. Sales volume, customer satisfaction and company profitability have all responded positively to this change in direction.

Q.33 What would be the prognosis for the industry under a business as usual approach (ie freezing tariffs at 10 per cent from 2005)? Would there be significant further rationalisation of the industry? Given that the 'Button Plan' envisaged three domestic vehicle producers, is the current situation of four producers (and the range of models) sustainable?

Just as important to the industry's evolution as the tariff level, is the future of supplementary assistance schemes such as ACIS. In Holden's case, we have adopted a strategic plan aimed at making the company independent of substantial government assistance, as quickly as possible. Potentially, that means by 2015. However the transformation process is poorly adapted to stopping and starting, not least because it is aimed at making use of an export window that will close within months rather than years.

Making the best use of the window requires maintaining the tariff, and evolving ACIS into a more efficient and targeted scheme with very similar aims and general structure. If this support is not provided at the crucial stage of company transformation, it is necessary to recognise the risk that the changes will be incomplete or less than successful.

If the Commission's question is re-stated as "What would be the prognosis if duty were frozen at 10% but ACIS expired without replacement", the answer requires a difficult judgement call. Holden would be able to retain its existing domestic market share and would remain reasonably viable while that frozen situation prevailed, though investment would be likely to be curtailed due to reduced project returns. Attempts would continue to be made to grow the export business, but the high cost of the engineering expansion required to properly execute the opportunities, would probably result in a reduced number of new products and/or less than adequate product outcomes.

With regard to the question of number of producers, this is a matter that will be resolved by economic forces – there is no occasion for national policy to address it. Each entrant will follow a strategy and the market will determine the outcome. It is realistic to say that the Australian domestic market is unlikely to prove capable of supporting any of the entrants, let alone all of them – exports will be required if viability is to be achieved. However the particular mix of domestic versus export sales that suits each entrant, will be an outcome of the business strategy. It is unlikely that there is any generally ideal ratio – the requirement is situation-specific. In short, four producers are sustainable if each of them has sufficient total volume between the domestic and export markets. Any that lacks such volume will be vulnerable.

Impact of Other Forms of Government Assistance

Q.34 What impact have other generally available government assistance programs, such as TRADEX, R&D grants and the Strategic Investment Incentive program and State government grants had on the industry? Do program requirements facilitate access by the automotive industry?

"Generally available" assistance programs are a necessary element in achieving a supportive business environment for all industries including automotive. The focus should be not on delivering assistance, but on facilitating activity and ensuring that conditions in Australia are at least as favourable as in competing economies. Hence, TRADEX is in practice simply an administratively efficient means of delivering a benefit which is well-nigh universal among trading nations (that is, avoiding levying import duties on goods that are intended for re-export after further processing in Australia).

In connection with the principle of avoiding imposts on exports, it is important to recognise that Australia's performance in this area is patchy. In particular, there is a gap with regard to re-importation of Australian-produced goods. Where Australian goods are exported, further processed or incorporated into other goods, and re-imported into Australia, import duty is levied on them. No relief is granted due to their Australian origin. Our practice in this regard is opposite to that of both the European Union and the United States. Holden's view is that Australia's policy is a poor one, since it fails to recognise that the world's trade is increasingly focusing on local value-adding to intermediate goods which pass through a number of economies on their path from raw materials to final consumption. Just as both the EU and the US have found it is to their economic advantage to facilitate entry into this trade in intermediate goods, we believe Australia would benefit similarly if it revised its policy. The present policy has the effect of insisting that Australia participate in all stages of production of an item, or none. In Holden's case, we have substantial sales of engines to vehicle manufacturers in Japan and Korea, and a significant number of the finished vehicles are ultimately imported into Australia. Despite their Australian engines being a significant part of their total cost (and sometimes an important selling feature in this market), import duty is charged on the full value of the vehicle including the engine. This policy creates an unnecessary impediment to Holden's efforts to obtain future export sales of engines.

With regard to administrative systems and policies, we must also draw attention to the Tariff Concession System and the Excluded Goods Schedule. The automotive industry is broadly denied normal access to the Tariff Concession System, without clear or acceptable reasons for this to be the case. In at least one past inquiry, a predecessor of the Productivity Commission suggested that the exclusion of the industry from the TCS is a quid pro quo for the existence of the "Duty Free Allowance" received by motor vehicle manufacturers. However that does not appear to have merit as a justification. The DFA is a necessary part of motor vehicle assistance arrangements as a direct result of other policy outcomes. For various policy reasons it is desired to have the same rate of duty on passenger cars and on components for passenger cars. However the duty on inputs to component production is much lower than the duty on finished components (less than 3% on average). On the other hand, the policy imposes the same duty on the inputs to car production as on finished cars. The immediate result of this is to create, potentially, a much higher Effective Rate of Assistance for component production than

for car production. A DFA simply provides a means to equalise the ERA for the two sub-sectors of the automotive industry – it has nothing to do with access to the TCS.

Finally, in terms of the strategic investment incentive program and State Government grants, both of these provide the opportunity for tailor made assistance packages to be developed to attract new investment that would otherwise not come to Australia. In this regard, some form of investment attraction scheme should be retained for these purposes. The appeal of such schemes is based on their ability to respond to international competition investment by virtue of their selective nature. It is in the interest of fiscal parsimony that capital subsidies be closely targeted on cases where they will make a difference to investment flows rather than disseminated generally. There are however a number of issues that need to be resolved including interaction between the Commonwealth and the State investment attraction programs, whether we currently offer world competitive investment attraction packages and whether effective processes are in place to review and assess proposals. In response to the Blackburne review of investment promotion efforts, the recent announcement in the budget of funding of A$44 million for Invest Australia was a positive step towards ensuring Australia's competitiveness in attracting overseas investment.

It is Holden's view that the TCS provides proper and adequate means for component producers to obtain access to tariff assistance. There is no need for car producers to be denied access to a scheme which has as a part of its basis, the intent to protect the interests of local manufacturers. Therefore not only should car producers have access to the TCS, but the EGS itself should either be abolished, or cease to include automotive goods. Measures such as the EGS and the restriction of access by car manufacturers to the TCS are redolent of a history including quota control, mandatory local content, and "non-reversion rules" – they belong to an earlier age of the industry's development and are very clearly not a part of an efficient, competitive world class future.

The R&D tax concession is available to all Australian companies and has supported the development of numerous new model and manufacturing process improvements since 1988/89. Despite some uncertainties in areas including technical eligibility, reduced benefits and retrospective legislative changes the concession is factored into the business case of all major projects. However these uncertainties when coupled with the low concessional rate of 125% do not provide a major incentive to undertake additional R&D in Australia.

The compliance effort required to support tax concession claims is very exacting and requires significant engineering resources. The absence of a statute of limitations requires material to be maintained into perpetuity with unextinguished exposures shadowing current eligibility and investment decisions.

While discretionary R&D Start grants are now available to major companies, it is our experience that these are difficult to access even where vehicle concepts new to Australian manufacturers are being considered, eg. Cross-over AWD. Notwithstanding this the grants are 'needs' based and accordingly impossible for successful enterprises to access. In proposing enhanced coverage for research and development under a post 2005 ACIS scheme, we believe that it should be possible to address some of these issues. Strong support for increased innovation and investment in new products and capability will be critical to the industry's growth prospects in the future.

Government Fleet Purchasing Preferences

Q.35 Is there a case for retaining/modifying the preferential treatment for vehicles supplied by local producers under government vehicle fleet arrangements?

Government preference for purchasing locally produced vehicles currently underpins volumes in relation to domestic market sales of locally manufactured vehicles thereby providing considerable assistance to local manufacturers.

In the Large car segment, government sales in 2001 represented 27.2% of total sales of locally manufactured Holden Commodore, Ford Falcon, Mitsubishi Magna and Toyota Avalon sales. In the medium car segment, sales to government in 2001 represented 22% of total Toyota Camry sales. In aggregate these sales represented 26.8% of total domestic vehicle manufacturing volumes in 2001.[27]

In establishing the arrangements for competing to supply Australian vehicles to government organisations, the local manufacturers also make the same or very similar levels of pricing available to much of the charitable and not-for profit sector in Australia. The government fleet vehicle preference and arrangements provide considerable community benefits and assistance to MPVs.

A number of governments also provide arrangements for "salary packaging" of vehicles for government employees. Most "salary packaging" arrangements allow government employees a choice of local or imported vehicles. However, there are strong existing relationships between government fleet managers and local manufacturers and their retailers as a result of the government preference for locally manufactured vehicles when purchasing fleet vehicles. It appears likely that locally manufactured vehicle producers obtain a higher share of these essentially private use "salary packaged" vehicles than would be likely to be achieved if the individuals were to purchase vehicles in the private market.

[27] Data collected by the Federal Chamber of Automotive Industries, April 2002

Adjustment Issues

Role of Phased Assistance Reductions

Q.36 What role can phasing of assistance reductions play in mitigating adjustment costs?

Broadly speaking there are two alternative policy approaches to mitigate the adjustment costs associated with reductions in assistance to an industry. They are either:

- to phase in a given quantum of the assistance reduction over a period of time; or
- to introduce a series of specific labour market programs to help manage the loss of employment from reducing the amount of assistance in question in a single step.

There are advantages and disadvantage with each approach and each is likely to vary according to the particular circumstances of the case in question.
Phasing-in any reductions in industry assistance can, however, play an important role in mitigating the adjustment costs that may be expected over the short run. As the Commission observed in its 1997 inquiry into the automotive industries, the phasing of any reductions gives more time for planning and for firms and workers that are likely to be affected to respond to the changing assistance environment.[28]

Moreover, the Commission recognised in its previous report the danger that rapid reductions may cause the exit of some producers that could be internationally competitive in the long run, but do not have the resources to survive in the short term.[29] A phased approach also means that the impact of tariff reductions on automotive production is more likely to be offset by the expansion of the product market in question with the growth in GDP. These arguments remain as valid for policy makers today as they were then.

Specific labour market programs can also play an important role. We support the Commission's conclusion that there is a case for providing specific assistance to employees affected by major changes in industry structure, such as plant closures and relocations.[30] However, past experience suggest that labour market programs can be difficult to target effectively and implement efficiently. For example, Holden considers that the Passenger Motor Vehicle Labour Adjustment Package had little effect in practice.

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[28] Industry Commission, *The Automotive Industry, Vol 1: Report*, Report No 58, 26 May 1997, p. 340.

[29] Industry Commission, *The Automotive Industry, Vol 1: Report*, Report No 58, 26 May 1997, p. 340.

[30] Industry Commission, *The Automotive Industry, Vol 1: Report*, Report No 58, 26 May 1997, p. 357.

Adjustment Costs

Q.37 Would there be likely to be significant adjustment costs from further assistance reductions? What would be the magnitude of these costs? Which Australian regions are particularly vulnerable to changes in the composition and size of the automotive sector?

Further assistance reductions would impose significant adjustment costs from the displacement of labour and capital in the industries and the attendant impact on regional economies, particularly in South Australia and Victoria. The economic modelling work to be undertaken for the inquiry should help to quantify the magnitude of these impacts and their implications.

These adjustment costs may be expected to manifest themselves in a number of ways. The most immediate adjustment costs are those associated with the loss of productive employment of those who had been previously employed in the automotive industries. These costs can extend well beyond the shorter-term costs to the affected individuals of searching for new jobs, relocation and retraining.

As has been previously recognised by the Commission, the relatively low level of formal skills of many automotive workers carries with it a risk of long term unemployment. Indeed in 1996 over half the workers employed in the Motor Vehicle and Parts industry, as defined by the Australian Bureau of Statistics, had no post-school qualifications.[31] In addition, a relatively high proportion of employees in the industries are from non-English speaking backgrounds, which is also widely accepted as an important characteristic in determining the risk of long-term unemployment if a person is made redundant.[32] Moreover, the specific skills acquired in the automotive industries often have limited relevance to other manufacturing industries.

Other labour adjustment costs include the cost to government of unemployment benefits and any increased expenditure under either general or targeted labour market programs, such as the Passenger Motor Vehicle Labour Adjustment Package.

Considerable capital adjustment costs can also arise where investments in plant and equipment are made redundant. To the extent that such losses are borne by foreign owners of the assets in question, they do not represent a loss to the welfare of the Australian community.

The extent of these adjustment costs will depend on a number of factors. Most obviously, these costs will be higher the greater are any further reductions in assistance and consequent effect on employment in the industries.

Many of these costs would be avoided if the reductions in one form of assistance — such as ACIS — were replaced with other forms of assistance — such as for research

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31 Industry Commission, *The Automotive Industry, Vol 1: Report*, Report No 58, 26 May 1997, p. 388.

32 Industry Commission, *The Automotive Industry, Vol 1: Report*, Report No 58, 26 May 1997, p. 389.

and development — as has been proposed in the main body of this submission. Similarly, adjustment costs can also be mitigated to some degree through various measures such as phasing or implementation of specific labour market and related adjustment assistance programs.

The regional impacts of adjustment depend upon the significance of automotive employment, the structure and extent of other industry in the affected regions as well as the level and duration of unemployment in them.

The automotive industries are concentrated in certain regions of Victoria and South Australia, although there are also significant activities in the component sector elsewhere. The automotive industries provide significant employment and play a major role in these regional economies. They are therefore particularly vulnerable to changes in the composition and size of the automotive sector.

Table 1: Unemployment characteristics.[33]

Manufacturer	Suburb	Unemployment Rate (%)	State Unemployment Rate (%)
Ford	Broadmeadows (VIC)	13.2	6.6
Holden	Elizabeth (SA)	21.5	8.2
Mitsubishi	Marion (SA)	7.8	8.2
Toyota	Altona (VIC)	7.5	6.6

Source: Department of Employment, Workplace Relations and Small Business

The assembly industry is located in regions such as Geelong, Broadmeadows and Altona in Victoria and Elizabeth in South Australia. These regions have relatively high levels of unemployment already (see Table 1 above). Indeed the local government areas in which the assembly operations are located are generally considered to suffer from socio-economic disadvantage compared to the rest of Australia. This is as measured by the Index of Socio-Economic Disadvantage published by the Australian Bureau of Statistics.[34]

The Industry Commission acknowledged in its 1997 report on the automotive industries that high unemployment rates in automotive producing regions would make it more difficult for displaced automotive workers to find new employment. As the Commission noted at the time: '…the importance of the automotive industries in the economies of these three regions undoubtedly means that if there were to be a major change in the regional structure of the industries, these regions would be at risk of significant short-term economic disturbance.'

[33] Economic and Labour Market Analysis Branch Labour Market Policy Group, *Small Area Labour Markets Australia*, Department of Employment, Workplace Relations and Small Business, June Quarter, 2000.

[34] Australian Bureau of Statistics, *Information Paper: 1996 Census of Population and Housing – Socio-Economic Indexes for Areas*, ABS Catalogue No. 2039.0.

Adjustment Impacts on Employment

Q.38 What would be the implications of further assistance reductions for employees in automotive manufacturing and related industries and in other sectors of the economy?

It is arguable that assistance reductions up to the present have had a balance of positive and negative effects on employees. On the negative side, adjustment pressures almost inevitably fall unequally on employees, with those who are the most experienced in "the old ways" facing the greatest need to change. Unfortunately this can interact with age profiles and lead to premature withdrawal from the workforce, which is often socially undesirable, and almost inevitably economically wasteful. More positively, the industry adjustments have led to a far greater emphasis on training, and on "investing" in employees, that is bringing real benefits to those in the industry.

Further reductions in assistance are unlikely to produce positive effects for employees, since the process of catching up with global industry practice has been largely accomplished. However the negative adjustment effects must inevitably still be present. Reductions in assistance translate, particularly in the short term, into less domestically-produced cars sold, and therefore less jobs producing them.

It is difficult to quantify the employment impact of falls in assistance other than by macro-economic modelling, which it is understood the Commission is undertaking. What must be considered, however, is that:

- The impact will be negative for people within the industry itself
- The extent of the impact will be greatest for people in age groups and in locations which make them vulnerable.

In other words, by blurring the effects over the economy as a whole and treating newly-emerging jobs as interchangeable with existing jobs, the macro-modelling greatly understates the problems that assistance reductions cause for individuals.

Q.39 What have been the regional impacts of changes in the employment base of the industry to date? Have technological improvements required a more highly skilled workforce? What proportion of the workforce is relatively low skilled or has associated 'risk' factors (such as older workers and workers from a non-English speaking background)? How mobile are automotive sector employees across industries and locations?

The workforce demographics of Holden have changed considerably in the last decade. The introduction of the Vehicle Industry Certificate, (VIC) in 1992 as part of the Award restructuring process has been progressively integrated into the Holden Production System. As a result, all new employees are selected on the criteria and expectation that they will complete this AQF-2 level accredited qualification that is linked to pay progression in the classification structure. As a consequence, production employees have now typically completed year 11 or 12 schooling in contrast to the much lower levels previously. The VIC also introduced multi-skilling and job rotation that had not been a traditional feature of the industry. Another emphasis of the VIC has been on continuous improvement and the integration of people and technology working together. As a result, these employees are provided with a range of skills that would be suited to a wide range of industries in the manufacturing sector.

The trade employees have been trained to a high standard in the industry and most have achieved post-trade accredited qualifications along with their extensive on-the-job experience. As a result, they are considered to be relatively mobile across the industry and their trade function. However, turnover in the trade group is low at Holden and the average service is higher than that of the production employees.

The older employee age groups in the Plant workforce predominantly are first generation immigrants from non-English speaking backgrounds with less years of schooling and have not accessed the VIC to the same degree as the more recently hired employees. Also, this group entered the industry when jobs were more task and area specialised with less exposure to multi-skilling and skill acquisition. This group that is approaching retirement has adapted to the new environment but still tend to be more reluctant to move into different functions and areas of the Plant that are unfamiliar that would consequently impact on their desire and ability to transition into alternative employment outside the industry.

The automotive industry has not historically attracted the same numbers of women in comparison to other types of manufacturing industries but this is gradually changing.

With regard to regional issues, Holden's vehicle manufacturing plant is in Elizabeth, South Australia, which is a high unemployment area. It is also some distance from other manufacturing areas, so there is a negative effect on people in the area who are either unable to retain a job at Holden, or unable to obtain one, because of economic changes such as reduced government assistance.

Q.40 Are there lessons from earlier PMV labour market adjustment programs? What measures could best assist retrenched workers to find employment outside the automotive industry?

Many of the initiatives of the PMV Labour Market Adjustment Programs have now been incorporated in the provision of Enterprise Agreements such as access to outplacement types of programs that focus on an individual's employability and job search skills. There has been an ongoing debate between Union and Company views on training and qualifications. The unions generally prefer that qualifications should be as generic and transportable as possible. This maximises the value to employees, because it increases their ability to move into other jobs in the industry. The Company view is that training should be suitable for the particular enterprise and based on the particular work skills and patterns that are relevant to the actual job being done. Processes and methods of work differ considerably from one industry member to another. Regardless of these differing perspectives, trade and production employees acquire skills and experience in the industry that have a broader application in wider industry – any difference of viewpoint is at the margin. The large increase in training intensity in the car industry has greatly increased the market value of the industry members who take part in the training available.

Re-employment strategies should take account of the two different constituencies involved: those who are VIC-trained or in the process of becoming so, and those who are not in this situation. Generally, the training-oriented employees are likely to be both easier to place, and more interested in ongoing skill acquisition. The less training-oriented employees are likely to be more suited to traditional labour market programs.

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THE NATIONAL ECONOMIC IMPACT OF AN EXPANSIONOF AUTOMOTIVE R&D

BY

ACCESS ECONOMICS

FOR

HOLDEN LTD

MAY 2002

CONTENTS

1. EXECUTIVE SUMMARY

Scope of the modelling

Holden Ltd has commissioned Access Economics to assess the possible national economic impacts resulting from a change in the way assistance is provided to the automotive industry. The change is for ACIS as it applies to motor vehicle producers (MVPs) to be based on R&D expenditure, replacing that part of the ACIS benefit which applies to the value of production.

The analysis covers only the possible impacts of changes to Holden's own activities, and is based on Holden's projections of the implications of an R&D program for production, domestic and export sales and prices to consumers. We have included these projections (modified as necessary) in a simulation of the AE-MACRO macroeconomic model of the Australian economy.

The direct effect of the change is assumed to be revenue neutral to government (ACIS assistance is provided in both the baseline and scenario projections - only the basis for provision of assistance is changed). Access Economics makes no comment on the merits of providing such assistance *per se* – the analysis examines only the possible consequences of a change in the basis of that assistance.

It is not the purpose of this analysis to estimate welfare implications from maintaining or changing tariff rates. That issue is being examined by CGE analysis in other submissions to the Productivity Commission. Access Economics makes no comment here on the merits or otherwise of particular scenarios for tariffs on passenger motor vehicles.

The scenario modelled would be consistent with higher or lower trajectories for future overall assistance levels, provided that there was a cost neutral shift of assistance from production to R&D support, and Holden still considered that the proposed investments gave an adequate commercial return.

The change in the nature of assistance would have other effects than those modelled here. It would encourage other MVPs to undertake more R&D expenditure, which might enable domestic production to expand into new market segments, increasing competition, as well as promoting export activity. There would also be possible spillover benefits to other MVPs and more widely in the economy from Holden's R&D activities. These could add to the impacts modelled here.

Results of the modelling

The main direct impacts of Holden's R&D program on the macro economy come from business investment and R&D spending, which flow on to additional production, exports, import replacement, and lower costs to consumers resulting from greater competition in the 4 wheel drive segment of the market. The project generates additional company tax payments which accrue to the Commonwealth, while profits are a net outflow in the invisibles account of the balance of payments (as the proponent is foreign owned).

Over the period from 2008 to 2012, net exports induced as a result of the automotive R&D program are projected to average around $1.2 billion annually at today's prices.

The program also delivers lower costs to domestic consumers, both for those who switch to competitively priced Holden vehicles, as well as for those who continue to purchase the import (because of the greater competition in the affected market segments).

Holden's additional production requires significant additional labour and intermediate inputs (themselves quite import intensive), but mainly involves more intensive use of capital rather than substantial new investment in productive capacity.

By 2012, the final year of the program, GDP is some $1.2 billion above baseline in today's dollars, while private consumption is some $710 million higher. There are around 6,800 additional people in employment.

AE_MACRO measures the change in economic welfare as the net increase in private consumption and public expenditure, plus the increase in the terminal value of private and public wealth. At a real discount rate of 5%, the project delivers an improvement in economic welfare of some $4.0 billion.

The modelling horizon is quite short compared to the natural response of AE-MACRO to real exogenous shocks. Hence impacts would continue beyond 2012. However, we have no data to continue the simulation beyond that point.

The modelling suggests, however, that the R&D program portrayed by Holden, induced by a budget neutral change in assistance arrangements, might have substantial positive economic impacts.

Access Economics

May 2002

2. DESCRIPTION OF THE ANALYSIS

Holden has commissioned Access Economics to assess the possible national economic impacts resulting from a change in the way assistance is provided to the automotive industry. The change is for some portion of the benefits of ACIS as it applies to motor vehicle producers (MVPs) to be based on R&D expenditure, replacing that part of the ACIS benefit which applies to the value of production.

The change in the nature of assistance would encourage MVPs to undertake more R&D expenditure, which could then enable domestic production to expand into new market segments, as well as promote export activity. We analyse this change using Access Economics AE-MACRO macroeconomic model of the Australian economy.

AE-MACRO is a relatively small dynamic model of the Australian economy. It was developed in 1992 by Access Economics, and is based on standard modeling practice. It has a stable long-term growth path that accords with neoclassical economic theory, together with short-term dynamics derived from Australian economic experience over the past 25 years.

The analysis involves comparing two simulations of the AE-MACRO model. The first ("Baseline" projection) is a standard long-run projection, based on Access Economics assumptions about trends in major economic variables. In the second ('Scenario" projection), we take the model used in the baseline projection and insert direct impacts resulting from the change in the form of ACIS provision. The direct impacts involve a program of R&D spending and capital investment by Holden, leading to an expansion in production. In the scenario projected, this expansion is to produce varieties in a vehicle segment which is currently not produced domestically – the four wheel drive segment. The difference between the two simulations provides an indication of the likely macroeconomic impact of the project.

Information was provided by Holden on the direct impacts from the change to assistance arrangements (R&D and capital spending, expansion of production and some price reduction to consumers). Access Economics has calibrated this information to be in accordance with macro projections implicit in the AE-MACRO model, but has not otherwise sought to validate Holden's projections.

In 2000, Holden accounted for around 37% of motor vehicles produced in Australia. The change in ACIS arrangements may also encourage the remaining 63% of the market to undertake a program of R&D spending and production expansion, though that is not accounted for in this analysis. Further competition from domestic manufacturers in the four wheel drive segment may see some additional replacement of imports, and is also likely to result in greater savings to consumers.

2.1 BASELINE PROJECTION

The baseline projection is a standard medium-term projection of the AE-MACRO model, with projections extending until 2012.

As the task is to analyse the net economic impact from a change in the form of ACIS assistance, and the projection extends until 2012, it implies that the baseline projection includes the continuation of ACIS assistance in its current form. ACIS benefits continue post 2005, at a similar level to that provided at present in real terms, with the basis for receiving those benefits as per the current ACIS guidelines. This corresponds with the first scenario in the Productivity Commission's modelling of post 2005 assistance arrangements.

Access Economics makes no comment on the merits of providing such assistance *per se* – the analysis examines solely some possible consequences of a change in the form of that assistance.

It is not the purpose of this analysis to estimate welfare implications from maintaining or changing tariff rates. That issue is being examined by CGE analysis in other submissions to the Productivity Commission. Access Economics makes no comment here on the merits or otherwise of particular scenarios for tariffs on passenger motor vehicles.

The baseline projection includes a path for tariffs on passenger motor vehicles, including the scheduled drop to a tariff rate of 10% on 1 January, 2005, and the tariff rate thereafter remaining constant at 10%. The tariff rate is used in this analysis to calibrate the import duty foregone from any switch from sales of imports to sales of domestic production. Thus it has second order implications. Much of the substitution in the scenario projection takes place in the four wheel drive (4WD) market where the general 5% tariff rate applies.

The scenario modelled would be consistent with a lower trajectory for future overall assistance levels, provided that there was a cost neutral shift of assistance from production to R&D support, and Holden still considered that the proposed investments gave an adequate commercial return.

The baseline projection includes a projection for new vehicle sales, which is related to macro projections for economic activity, as well as projections of the relative price and operating cost of vehicles. This projection for total domestic motor vehicle sales is unchanged in moving from the baseline to the scenario. However, the scenario projection does encourage further domestic production, both for export markets and to replace imported vehicles at a lower price to consumers.

2.2 SCENARIO PROJECTION

In the scenario projection, we take the model used in the baseline projection and insert direct impacts resulting from the change in the form of ACIS provision.

At present MVPs are able to claim import duty credit equal to 25% of the value of production, multiplied by the relevant tariff rate (for this analysis the tariff rate is 10% post 2005). They are not able to claim import duty credit for R&D expenditure. [1]

The scenario is for the import duty credit relating to production to be reduced to 0%. Instead, the equivalent dollar value of import duty credit is received by MVPs for R&D expenditure. There is no change in the cost to government as funding for ACIS is assumed to be capped, and the share of ACIS benefits accessed by MVPs (as opposed to automotive component producers, automotive machine tool producers or automotive service providers), is assumed to remain constant.

Holden have provided information to Access Economics on a program of R&D spending and capital investment which they may undertake if there was a change in the form of ACIS. Using this information, the scenario is that the change in ACIS arrangements induces an increase in R&D expenditure, leading to the following effects:

- investment spending from 2005 to 2007 to facilitate a production expansion based on the R&D program;
- production expansion into a new market segment (specifically, new vehicle variants in the 4WD segment where there is currently no domestic production);
- substitution by some purchasers from imported vehicles to the new production in the 4WD segment;
- a lower price relative to baseline in the 4WD segment, both to purchasers of the new domestically produced vehicles, and to those who continue to buy imports (as the new vehicles can be produced at a lower cost than the baseline price of the imported competitors, the additional competition results in a price fall for the entire market segment). This induces some additional customers to the segment;
- expanded production of vehicles destined for export markets. R&D spending would enable a more flexible production platform to be developed, which would more easily allow modifications to be introduced to meet the specifications of particular export markets. This would allow production for export markets to expand relative to baseline.

[1] ACIS does allow for MVPs to claim import duty credit based on R&D in those instances where MVPs produce automotive components, tooling or services for a third party. As this is subsidiary to their main business it is ignored for this analysis.

These direct impacts are analysed outside the AE-MACRO model, using Excel spreadsheets to model the overall impacts of the shocks on Holden's foreign direct investment, depreciation and taxable income, tax payments and dividends paid overseas. These are then included in the relevant equations of AE-MACRO. The modelling therefore takes full account of the financial impacts on government and on the balance of payments, as well as the real and price impacts.

The scenario covers one vehicle life cycle, with production for five years (from 2008 to 2012 inclusive). Further production cycles are not included in the modelling.

Domestic customers in the four wheel drive segment are split between government, private and fleet purchasers. This split is assumed to be in line with final demand usage in the economy, with around 20% being sold to government, and the remainder to private and fleet buyers.

Aside from the direct impacts resulting from heightened competition, the four wheel drive segment is expected to grow in line with the baseline projection for overall motor vehicle sales (though over recent years the segment has been growing at a faster rate).

In the scenario projection, the dollar value of import duty credits provided under ACIS is not specifically 'netted off' against R&D spending. Rather, the change in the basis of ACIS encourages the R&D program to proceed (otherwise benefits would not be received). There is assumed to be no change in the price of vehicles to customers in other segments as a result of the basis of assistance shifting from production to R&D.

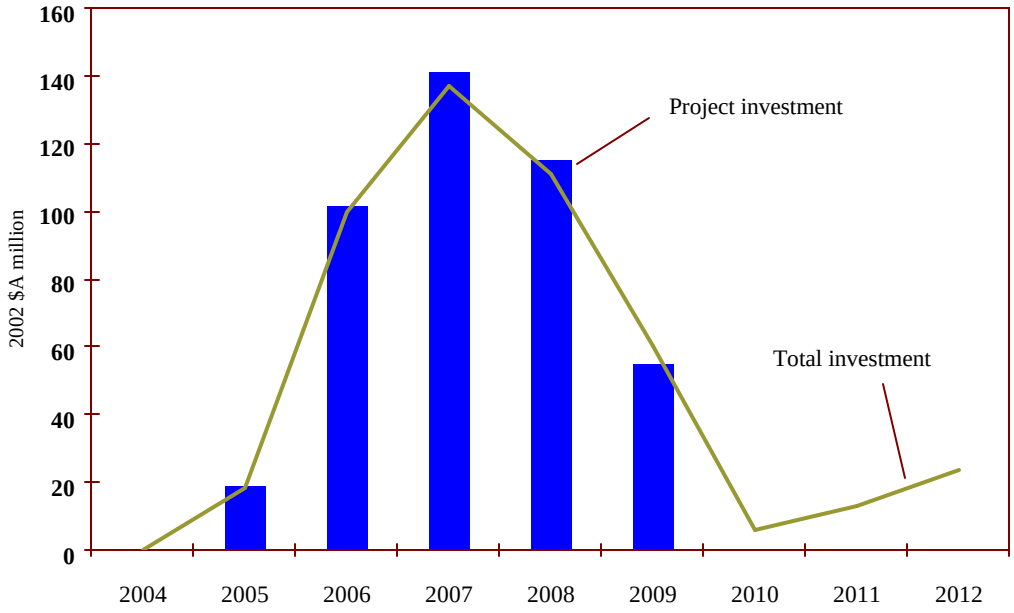
While there is no net cost to government as a result of changing the basis for ACIS assistance, there is a cost from the additional R&D spending. Such spending also qualifies for the standard 125% R&D deduction. This has been included as a cost to government revenues in this analysis.

One of the possible benefits resulting from R&D investment comes from technology transfer to other manufacturing industries (a productivity gain). While such benefits can be significant, they are also difficult to project. Conservatively, such 'spillover' benefits from R&D spending have not been included in the analysis here, but we note the potential for additional benefits resulting from R&D spending.

3. RESULTS OF THE MODELING

Key results of the modeling are summarised in the following charts. The charts and commentary refer to the deviation from baseline as a result of the automotive R&D program.

CHART 1. R&D PROGRAM: IMPACT ON INVESTMENT



3.1 DIRECT IMPACTS

The main direct impacts of the R&D program on the macro economy come from business investment and R&D spending, which then produce a stream of benefits through exports, import replacement, and lower costs to consumers. The project generates company tax payments which accrue to the Commonwealth, while profits are a net income outflow in the balance of payments (as the proponent is foreign owned).

Business investment for the program starts in 2005, R&D spending starts in 2006, with vehicle production starting in 2008. Production continues until 2012 (one vehicle life cycle), with no further benefits accruing beyond that date.

Chart 1 shows that there is a boost to business investment over the period 2005 to 2009. After that time there is no further project investment, though still a small amount of additional investment spending elsewhere in the economy, as a flow-on from the expansion in activity once vehicle production starts.

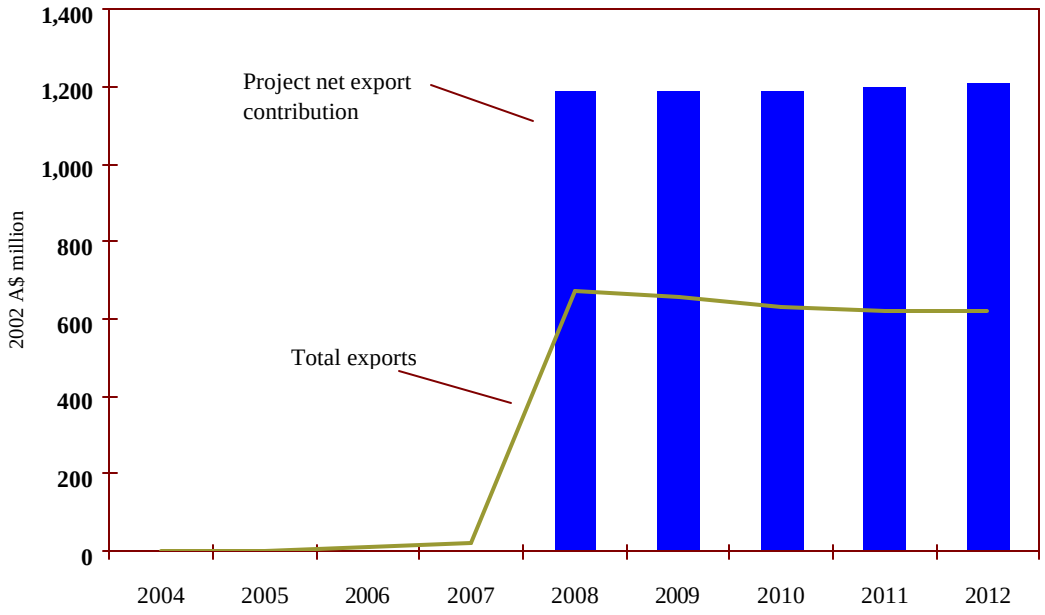
R&D spending is classed as an expense, and so is not included in Chart 1. Some of this spending does show up in the overall employment response in Chart 3, though its most important contribution is that it enables the vehicle production program to occur.

Once vehicle production commences, it generates export revenues and displaces imports. There is a substantial sustained impact on net exports (i.e. project exports plus the project's savings in imports). Exports are sent to several overseas markets, with the more flexible vehicle production platform better equipped to meet particular specifications. Holden's domestic sales of four wheel drives displace imports – in modelling this effect imports are valued at their landed price, with distribution and retailing costs assumed to be the same for domestic as for imported vehicles.

Over the period from 2008 to 2012, net exports produced as a result of the automotive R&D program are projected to average around $1.2 billion annually at today's prices. As Chart 2 shows, the increase in project net exports is reflected in behaviour of total Australian exports – but at a lower level, since the project's net exports also include the import saving.

The program also delivers a direct benefit via lower costs to domestic consumers, both for those who switch to the more cost-effective Holden vehicle, as well as for those who continue to purchase the import (because of the greater competition which has been introduced). This is modelled as an economy wide price reduction, which allows consumers with a given nominal budget to increase their real consumption.

CHART 2. R&D PROGRAM: IMPACT ON EXPORTS



3.2 FLOW-ON IMPACTS

The consequences of the R&D program flow to GDP and employment. Impacts on GDP are modest during the investment phase, with much of the stimulus to demand met by additional imports. As production starts, the net export contribution flows through to a strong shift upwards in GDP, assisted by consumption of labour income of the project's employees - both direct and indirect. The deviation in GDP plateaus over the production period. In composition, over time more of the impact comes from consumption - labour incomes expand due to growth in employment and real wages, while the reduction in foreign debt adds to the economy's wealth. This, in turn, promotes additional imports, which dampens the net export contribution to GDP.

Chart 3 shows solid gains to employment over the production period. The project is relatively labour and materials intensive, with a comparatively small investment component. The R&D program leads to more intense use of existing capital, more than to expansion of the capital stock. Those employment benefits moderate over time, as real wage growth crowds out some of the employment response.

CHART 3. R&D PROGRAM: GROSS DOMESTIC PRODUCT AND EMPLOYMENT

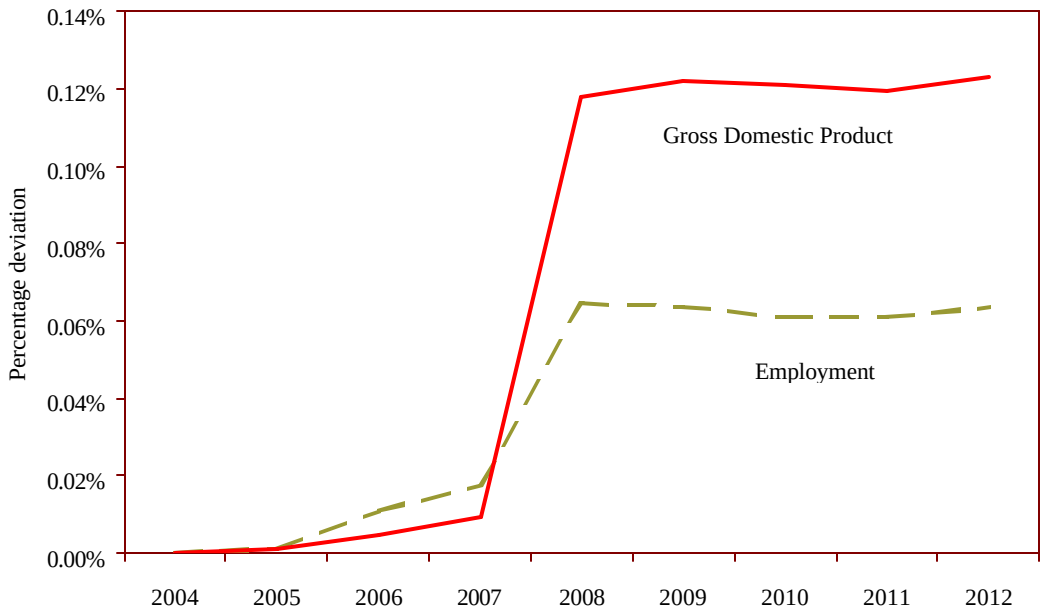


Chart 4 shows the impact on the balance of payments. During the investment phase, the current account deteriorates, as investment spending drags in some imports. That is more than compensated once production begins in 2008, with a significant surge in export volumes. The project also generates significant import replacement in the four wheel drive segment. However, imports in total only fall a little in 2008 and then rise again.

There are several factors which dilute the project's impact on measured import replacement:

- imports are valued at landed price, rather than sales price,
- the motor vehicle industry is relatively import intensive in its inputs to production, and
- consumption increases resulting from the project add to spending on imports.

Over time, an appreciation of the real exchange rate (see Chart 7) helps to push the current account back towards balance - crowding out some exports and encouraging imports.

The net income account slips into deficit when production starts, with the project's profits being distributed overseas. By 2012 however, the net income account is approaching balance - benefiting from reduced interest payments, as the project's net exports contribute to a reduction in foreign debt and the higher real exchange rate reduces the burden of real $A payments.

CHART 4. R&D PROGRAM: IMPACT ON THE BALANCE OF PAYMENTS

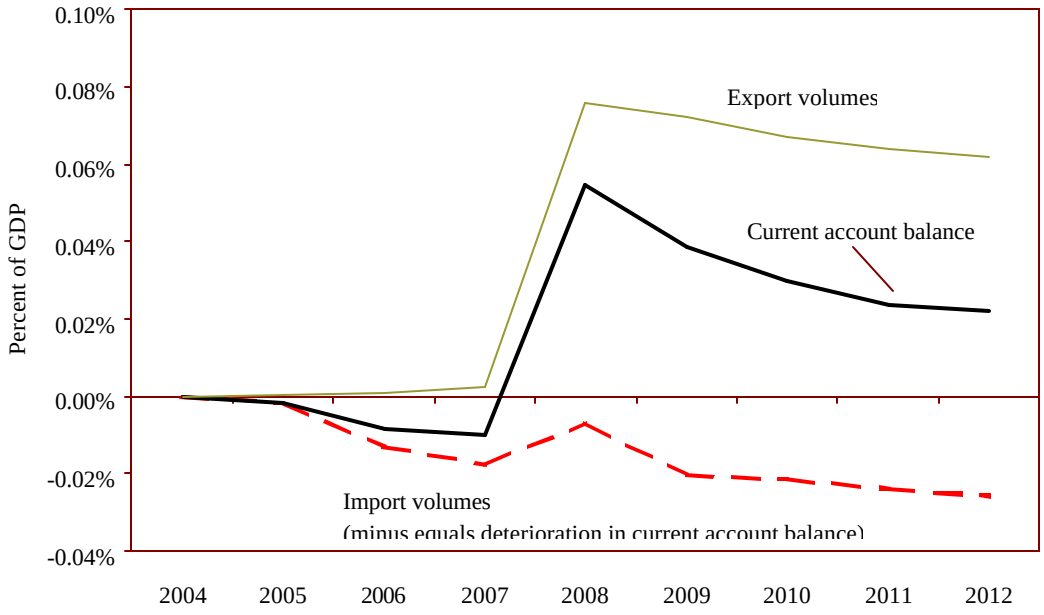


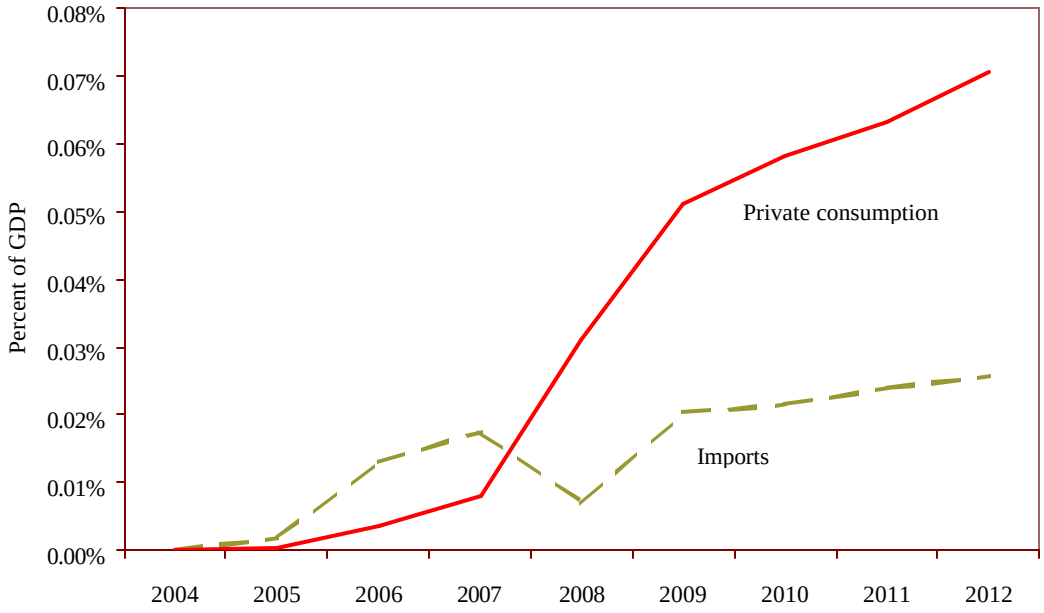
Chart 5 shows the impact on private consumption, that continues to grow over the production period. As well as the improvement in labour income via real wages and wealth via a reduction in foreign debt mentioned earlier, private consumption also benefits via an endogenous reduction in the income tax rate.

The AE-MACRO model includes a reaction function whereby public sector balance is restored via endogenous changes in the income tax rate. Public sector revenues do grow as a result of the project, both from direct company tax payments made by the

proponent, as well as revenue flows related to the higher level of activity - personal income tax and GST payments. The reduction in imports of four wheel drives sees some reduction in tariff revenue, though this is small in comparison to the revenue gains.

Those revenue gains induce an endogenous reduction in the income tax rate, to send the public sector back towards balance (rather than accumulating surpluses). That reduction, in turn, further stimulates private consumption spending.

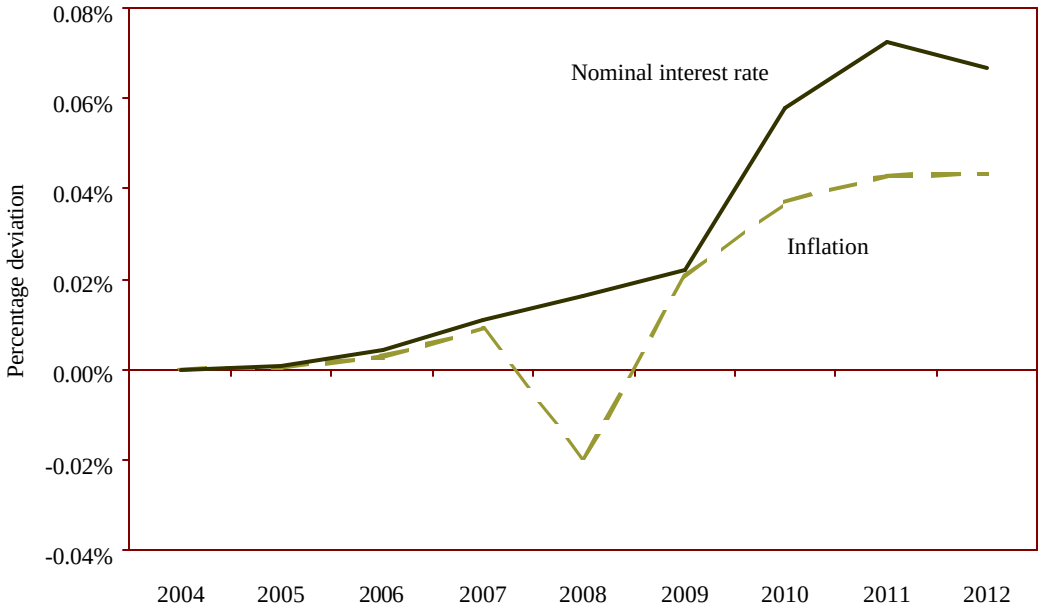
CHART 5. R&D PROGRAM: IMPACT ON PRIVATE CONSUMPTION AND IMPORTS



The project's investment phase boosts demand, and leads to a small rise in inflation up to 2007 (Chart 6). In 2008 as production starts, the deviation in the inflation rate is negative. That is due to the cost savings achieved on domestic purchases of four wheel drives, both for those who switch to the more cost-effective Holden vehicle, as well as for those who continue to purchase the import (because of the greater competition which has been introduced). This price reduction outweighs a rise in inflation due to the demand stimulus in 2008.

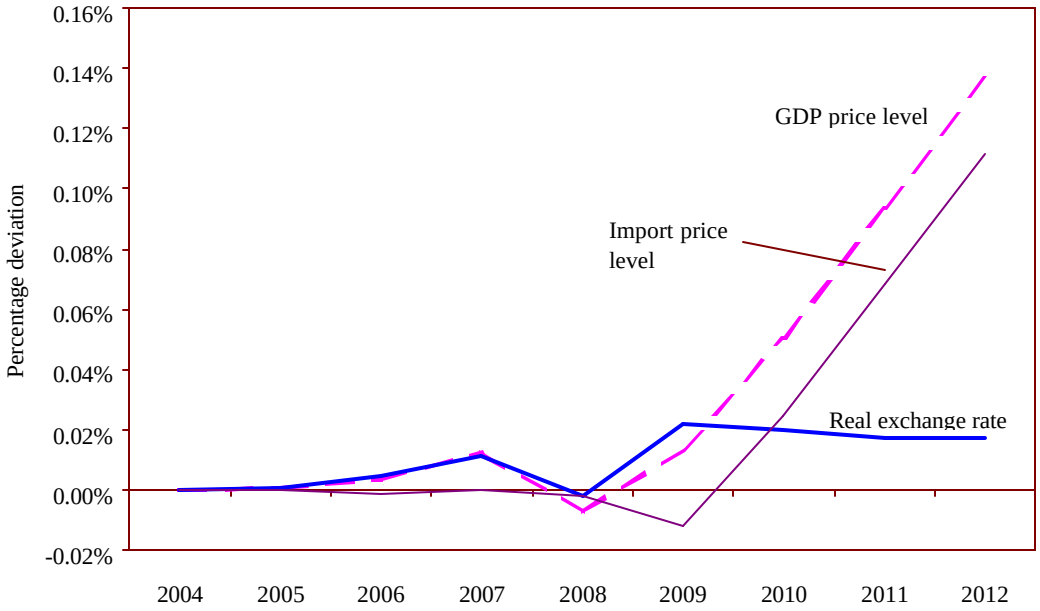
From 2009 onwards, inflation is again positive due to the ongoing demand pressures (workers can bid up their wages due to additional demand for labour). The competitive price reduction is a one-off for the inflation rate in 2008 (though it of course remains in the price level). Interest rates follow the rise in inflation, and crowd out some of the excess demand.

CHART 6. R&D PROGRAM: INFLATION AND INTEREST RATES



Strong demand pressures see the domestic and import price level continuing to grow over the forecast period, with a positive deviation in the real exchange rate crowding out some activity in the tradeables sector.

CHART 7. R&D PROGRAM: EXCHANGE RATE AND PRICE LEVELS



The modelling horizon is quite short compared to the natural response of the AE-MACRO model to demand, production and cost shocks. While we do not have the data to continue the simulation, were it done, we would expect to see the model returning to a long run growth path within another decade or so.

4. OVERALL IMPACTS ON ECONOMIC WELFARE

In AE-MACRO the best measures of the project's overall impact on economic welfare are:

1. the increase in annual flows of private consumption and public sector final expenditures that it allows, and
2. the increase in public and private sector wealth at the end of the simulation period. [This is the best available indicator of the possible impact beyond that date.]

To compare these welfare impacts, that occur at different points in time, we convert them into net present values by summing and discounting back to the present. Table 1 shows the result.

TABLE 1. R&D PROGRAM, IMPACTS ON AUSTRALIAN ECONOMIC WELFARE

Net present values over the period 2002 to 2012

	Real discount rate		
	3%	**5%**	**7%**
	2002 $ million		
Private sector			
consumption + increase in wealth in 2012	3,910	3,290	2,780
Public sector			
expenditure + increase in wealth in 2012	840	700	590
Total economic benefit			
private + public	4,750	3,990	3,370

According to AE-MACRO, after allowing for the income tax reduction, the welfare impact is mainly on the private sector. At a real discount rate of 5 percent the project improves Australian economic welfare by an estimated $4.0 billion in net present value terms. The estimates vary as the discount rate is raised or lowered.

5. CONCLUDING COMMENT

AE_MACRO is macroeconomic model with a single-good long run neoclassical growth model at its core. This is surrounded with asset markets representing the portfolio allocations and reactions of households, government and foreigners. Short term dynamics are rigorously based on the behaviour of the Australian economy over the last 25 years.

The model shows the macroeconomic consequences of adding a new activity (Holden's R&D program) to the economy, with the assumed impacts in the automotive sector and markets directly represented. In economic terms the behaviour is oligopolistic – a manifestation of competitive rivalry. The rivals adversely affected are foreign importers. Consumers benefit. The simulation suggests that (if the shock occurred) the macroeconomic consequences would be quite substantial, with relatively little crowding out of other activity over the simulation horizon.

AE-MACRO has a different focus to computable general equilibrium models, that focus on the long run structural and efficiency implications of variations in relative prices and costs – on the assumption that firms respond according to a perfectly competitive paradigm. We believe that, for the shock modelled, it is an appropriate tool for the job.

Access Economics

May 2002

6. APPENDIX A. APPLICATION OF THE AE-MACRO MODEL

6.1 INTRODUCTION

AE-MACRO is a relatively small dynamic model of the Australian economy (with 16 stochastic equations – 84 behavioural and accounting identities). It was developed in 1992 by Access Economics, and is based on standard modelling practice. It has a theoretically-consistent long-term open-economy growth path, together with short-term dynamics derived from Australian economic experience over the past 25 years.

AE-MACRO is an aggregate 'new Keynesian' model with neoclassical long run properties. It features:

- economic agents are households, firms, government and foreigners. There are markets for goods and services, real and financial assets;
- a deregulated financial sector, with a floating exchange rate, market-determined bond rate and short term interest rates determined by a Taylor monetary reaction function;
- public sector revenues and expenditures and financing behaviour fully modelled, with a reaction function adjusting the personal income tax rate in response to changes in government debt. The model incorporates recent changes to indirect tax arrangements;
- a single-good production sector incorporating an integrated treatment of the investment, jobs, production, importing, exporting and pricing decisions of firms. Long run properties are neoclassical, based on CES production and transformation functions. Short term properties reflect an assumed adjustment hierarchy, allowing Keynesian responses to demand shocks;
- data consistency - most of the model's parameters are estimated using quarterly data extending from 1976 to the present. Special attention is paid to dynamics and diagnostic testing.

A complete description of AE-MACRO and its properties is contained in *The AEM in Detail: A Manual*, Access Economics, Canberra, 1998.

The predominant use of the model is as an aid to forecasting and policy analysis. Its record in this is good – though judgement is required in short-term forecasting, given the extensive structural changes in Australia in recent years, and the degree of "noise" in the statistical data.

The model is also used as a tool for long run simulations of policy and structural changes, including the macroeconomic impact of major investment projects. The purpose of such applications is not to provide exact long-term forecasts, but rather to explore the possible medium-term macroeconomic impact of exogenous shocks,

measured as deviations from a control simulation about the model's long-run growth path. The focus of the analysis is the possible aggregate economic response over periods from one to ten years, rather than on the long-run growth path of the overall economy.

6.2 MODELLING THE IMPACT OF THE HOLDEN R&D PROJECT

PROJECT DETAILS

Holden have provided information to Access Economics on a program of R&D spending and capital investment which they may undertake if there was a change in the form of ACIS. Using this information, the scenario is that the change in ACIS arrangements induces an increase in R&D expenditure, leading to the following effects:

- investment spending from 2005 to 2007 to facilitate a production expansion based on the R&D program;
- production expansion into a new market segment (specifically, new vehicle variants in the 4WD segment where there is currently no domestic production);
- substitution by some purchasers to the new production from imported vehicles in the 4WD segment;
- a lower price relative to baseline in the 4WD segment, both to purchasers of the new domestically produced vehicles, and to those who continue to buy imports (as the new vehicles can be produced at a lower cost than the baseline price of the imported competitors, the additional competition results in a price fall for the entire market segment). This induces some additional customers to the segment;
- expanded production of vehicles destined for export markets. R&D spending would enable a more flexible production platform to be developed, which would more easily allow modifications to be introduced to meet the specifications of particular export markets. This would allow production for export markets to expand relative to baseline.

The scenario covers one vehicle life cycle, with production for five years (from 2008 to 2012 inclusive). Further production cycles are not included in the modelling.

ADJUSTMENTS TO THE MODEL

Key characteristics of the Holden project are incorporated into AE-MACRO, both exogenously and endogenously, via changes to relevant equations. On the production side, the incremental net expansion proposed by Holden is incorporated, effectively as an additional industry that impacts on aggregate output, factor demands, as well as on the balance of payments, prices and income streams. The model then reacts to these shocks according to its long run optimising and short run dynamic behaviour.

The starting point is a spreadsheet expressing the project's revenues, current and capital expenditures in nominal prices of the model's baseline solution. These are then used to estimate gross and net operating surpluses, taxable income, after tax cash flows and sources and uses of funds.

The method for incorporating the project in the model is described in the following sections.

Investment phase

Investment spending for the project is exogenously added to model-generated private business investment. It adds directly to recorded business investment and GDP. Some of the investment spending leaks to imports, reducing the net contribution to domestic demand. The extent of this is determined endogenously by the model.

Model generated investment normally accrues to the model's capital stock, which brings forward complementary employment, adds to wealth and needs to be maintained. However, for the project being analysed, such effects are accounted for separately via other changes to the model, so project investment does not flow to the model's capital stock.

In isolation, the investment phase provides a short run Keynesian stimulus to the economy (during the period of investment), but beyond that the economy would perform below baseline if no additional output resulted.

Outputs

The output of the project is modelled separately, adding to exports and replacing imports at the landed value of the vehicles being replaced.

Incorporating this output provides a direct contribution to net exports and GDP, save for some crowding out via a rise in interest rates and the real exchange rate. Impacts are reduced once account is taken of the costs of production and financing/distribution effects.

The competitive reduction in prices to purchasers of vehicles is incorporated via a reduction in the price level of domestic production. This flows through to domestic final demand, so that customers with a given nominal budget are able to increase their real spending. From this additional spending there is some leakage to imports. The reduction in the price level does not flow through as a price change in the production function (with the additional production from Holden being accounted for directly).

Costs of production

Current costs of production (including R&D expenditure) are included as additional exogenous demands for labour, capital services and imports.

The import component is added exogenously to the model's import demand. Labour costs are converted to equivalent employment at the average wage, and exogenously included in model-generated demand for labour. They reflect both a competing use of resources and a generator of labour income (which adds to consumer demand).

Demand for capital services is assumed to divert these from other uses, producing no net increase in aggregate gross operating surplus.

Financing and use of income

Foreign equity inflow to finance the project's investment adds exogenously to capital inflows in the balance of payments (reducing the overall requirement for debt financing).

Taxable income is calculated within the model, with company tax payments adding to government revenues. Other revenue effects, such as higher personal income tax collections from higher employment or higher consumption tax collections from higher consumption, are determined endogenously.

Residual cash flow from the project is assumed to be distributed to the foreign parent, adding to invisible outflows in the current account of the balance of payments.

6.3 ECONOMIC ASSUMPTIONS

Beyond Access Economics' normal five-year forecasting horizon[2], we assume that the Australian and international economies develop along steady long-run paths. Key long-run economic assumptions underlying our analyses are shown in Table 2.

TABLE 2. LONG RUN ECONOMIC ASSUMPTIONS

	Growth rates *Percent per annum*
Australia	
Working age population	0.3
Labour productivity	1.3
Real GDP	2.2
Inflation	2.3
United States	
Inflation	2.3
10-year bond yield (level)	5.0

These assumptions are stylised. They do not make allowances for specific disturbances that will affect the Australian and world economies in coming decades. There is an implicit assumption that governments will follow sound fiscal and monetary policies, and that current views on policy objectives (e.g. for inflation) will continue. The future will no doubt deviate from the stylised assumptions in ways that are difficult to predict.

[2] Access Economics, *Business Outlook*, Canberra, published quarterly

6.4 APPLICATION TO THE HOLDEN R&D PROJECT

Further results from introducing the Holden R&D project as an exogenous shock to the AE-MACRO model are summarised in the following tables.

TABLE 3. HOLDEN R&D PROJECT: MACROECONOMIC IMPACTS

	Deviations from baseline simulation levels					
	2005-07	**2008**	**2009**	**2010**	**2011**	**2012**
Aggregate expenditures:	(Real terms; percentage deviation)					
Private consumption	0.01%	0.05%	0.09%	0.10%	0.11%	0.12%
Business investment	0.07%	0.09%	0.05%	0.00%	0.01%	0.02%
Public final demand	0.00%	0.02%	0.03%	0.04%	0.04%	0.04%
Domestic final demand	0.01%	0.05%	0.07%	0.07%	0.08%	0.09%
Exports	0.00%	0.29%	0.27%	0.25%	0.24%	0.23%
Imports	0.04%	0.03%	0.07%	0.08%	0.09%	0.09%
GDP	0.01%	0.12%	0.12%	0.12%	0.12%	0.12%
	(Number; thousands)					
Employment	1.0	6.7	6.6	6.4	6.5	6.8
	(Percentage deviation)					
Employment	0.01%	0.06%	0.06%	0.06%	0.06%	0.06%
Prices & wages:						
Price level	0.01%	-0.01%	0.01%	0.05%	0.09%	0.14%
Nominal wage rate	0.01%	0.04%	0.09%	0.13%	0.17%	0.21%
Inflation rate	0.00%	-0.02%	0.02%	0.04%	0.04%	0.04%
Interest rate, tax rate & exchange rate:						
Interest rate (Bill rate)	0.01%	0.02%	0.02%	0.06%	0.07%	0.07%
Income tax rate	0.00%	-0.02%	-0.04%	-0.05%	-0.06%	-0.06%
Exchange rate (TWI)	0.00%	0.01%	0.01%	-0.03%	-0.08%	-0.12%
	(Ratio to nominal GDP; percentage points)					
Public sector borrowing	0.00%	-0.02%	-0.01%	0.00%	0.00%	0.00%
Balance of payments:						
Trade balance	-0.01%	0.06%	0.05%	0.04%	0.03%	0.03%
Current account balance	-0.01%	0.05%	0.04%	0.03%	0.02%	0.02%

Note: Interest rate, inflation rate and tax rate deviations expressed in percentage points

TABLE 4. HOLDEN R&D PROJECT: MACROECONOMIC IMPACTS

	2005-07	2008	2009	2010	2011	2012
	Annual averages (2002 $ million)					
Private consumption	34	278	467	549	615	712
Business Investment	86	112	61	6	13	24
Public final demand	1	46	71	77	79	83
Domestic final demand	120	430	626	703	767	871
Exports	10	676	659	632	622	624
Imports	-92	-62	-186	-203	-233	-259
GDP	44	1,053	1,114	1,141	1,161	1,241
Public sector borrowing	-6	-164	-74	-26	-13	-21
Current account balance	-60	445	305	221	158	137

6.5 MEASUREMENT OF ECONOMIC WELFARE

To measure the impact of the Holden R&D project on Australian economic welfare, we need to consider the impacts over time on the Australian private and public sectors.

The benefit to Australians is the flow of additional household consumption and additional public services that the project makes possible. These we can measure as the annual increase in real private consumption expenditure and the annual increase in real government current expenditure. By summing and discounting at an appropriate social discount rate, we can construct a single net present value estimate of the increase in Australian economic welfare made possible by the project.

Reflecting the scope of the model, this welfare estimate has limitations:

- there is a presumption that markets for public and private goods and services are efficient and free from distortion, so that an increase in expenditures in base period (1999/00) prices represents an improvement in welfare;
- no account is taken of changes in the distribution of income or wealth, as a result of the project; nor of any environmental impacts; and
- the measure is limited to the time horizon of the model – in this case 10 years.

We can make some allowance for impacts beyond the model's time horizon by adding to the welfare estimate the net present value in 2002 of the change in public and private sector wealth in the final year (2012) as a result of the project. If in the final year, Australians have increased the stock of assets they own, they will be able to generate a higher level of consumption expenditure beyond that date. If, on the other hand, they have financed previous increases in consumption through a deterioration in the balance of payments, then net liabilities to foreigners will have increased (resulting in a reduction in Australian wealth).

Private sector wealth includes:

- currency holdings
- Australian public sector debt held by residents
- the replacement value of the business capital stock owned by Australians
- the replacement value of the dwelling stock
- the replacement value of private business farm and non-farm inventories
- less net private sector debt liabilities to foreigners.

Public sector wealth includes:

- the replacement value of general government and public enterprise capital stocks
- the replacement value of public enterprise inventories
- less public sector net financial liabilities

6.6 LIMITATIONS OF THE MODELING RESULTS

The results reported in the paper reflect the assumptions and parameter estimates built into AE-MACRO. In turn, these assumptions and estimates reflect the actual experience of the Australian economy in the past twenty five years.

The model exhibits a traditional Keynesian response to domestic demand stimuli. It also incorporates a strong expectations link from monetary policy to wage behaviour. The latter reduces the extent to which demand stimuli dissipate in higher inflation. This tends to increase the initial impact on employment, but to have the opposite (and offsetting, as far as consumption spending is concerned) effect on real wages.

The moderate inflationary response keeps the pressures on interest rates and the exchange rate within manageable bounds. The assumed fiscal policy reaction function also ensures that government uses the additional revenue flowing from higher economic activity to reduce taxes rather than to increase spending.

The results are an indicative guide to the likely impact of the project. Macroeconomic simulations of a project such as the Holden R&D project can only provide a broad

indication of its likely impact. While the model is internally consistent, and in accordance with economic theory, it is highly aggregate and may therefore miss some important detail. The project itself is still at the planning stage. The economy itself will change, and the overall economic environment will certainly not be as smooth as that implied by the baseline scenario. The effectiveness and emphasis of Australian economic policy may fluctuate.

If different assumptions had been built into the model, the macroeconomic impacts would still have been significant and positive. For example, if we had assumed a stronger response of wages to increased demand for labour, then the employment impact would have been smaller, but the average real wage would have been higher. There would still have been a substantial increase in private consumption.

Similarly, if we had assumed that governments increased spending more and reduced taxes less, there would still have been a significant impact on aggregate demand and activity.

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