

Postal Address:

1521 Hume Highway
CAMPBELLFIELD, VICTORIA

Contact:

Mr Bob Franklin
Managing Director
(03) 9359 9822

AUTOLIV AUSTRALIA
PRODUCTIVITY COMMISSION
SUBMISSION

24 MAY, 2002



EXECUTIVE SUMMARY	5
SECTION 1 – THE AUTOMOTIVE PROFILE OF AUTOLIV	7
1.1 COMPANY STRUCTURE	7
1.2 AUTOLIV’S PRODUCTS AND SERVICES	8
1.3 AUTOLIV’S MARKETS	8
1.4 EMPLOYMENT AND SKILLS DEVELOPMENT AT AUTOLIV	10
1.5 INNOVATION AND R&D CAPABILITY	11
1.6 CAPITAL INVESTMENT IN THE MANUFACTURING PROCESS	14
1.7 AUTOLIV’S EXPORT STRATEGY	14
1.8 SUPPLY CHAIN DEVELOPMENT	17
1.9 AUTOLIV’S CONTRIBUTION TO THE AUSTRALIAN ECONOMY.....	18
SECTION 2 –THE EFFECT OF CURRENT POLICY SETTINGS.....	20
2.1 INTERNATIONAL COMPETITIVENESS TRENDS	20
2.2 MICROECONOMIC REFORM & TAXES.....	25
2.3 INDUSTRIAL RELATIONS	25
2.4 R&D ASSISTANCE IN AUSTRALIA IN THE GLOBAL CONTEXT.....	26
SECTION 3 –THE AUTOMOTIVE TARIFF RATE.....	30
3.1 CHANGES IN THE AUTOMOTIVE TARIFFS	30
3.2 THE IMPACT OF LOW TARIFF RATES.....	31
SECTION 4 –DEMAND-SIDE POLICIES AND TRADE ACCESS.....	33
4.1 INFLUENCES ON DOMESTIC DEMAND	33
4.2 THE WORLD AUTOMOTIVE MARKET	34
4.3 MARKET ACCESS	35
4.4 THE AUTOMOTIVE MARKET ACCESS AND DEVELOPMENT STRATEGY.....	36
SECTION 5 –SAFETY STANDARDS AND ENVIRONMENTAL ISSUES.....	39
5.1 SAFETY STANDARDS.....	39
5.2 ENVIRONMENTAL ISSUES.....	43
SECTION 6 – DEVELOPING A FUTURE OF GROWTH FOR AUTOLIV AUSTRALIA	44
6.1 KEY COMPETITIVENESS DRIVERS.....	44
6.2 THE AUTOLIV FUTURE AND THE AUSTRALIAN INDUSTRY.....	44
SECTION 7 –RECOMMENDATIONS	46
APPENDIX 1 - ECONOMIC IMPACT STUDY	48
APPENDIX 2 – ECONOMIC IMPACT STUDY – INPUT/OUTPUT CALCULATION OF ACIS – INDUCED EXPENDITURE	52

Tables & Charts

Table No	Name	Page No
1	Key historical milestones for Autoliv in Australia	6
2	Autoliv's product range, export destinations and customers	8
3	Project-specific impact of ACIS	22

Chart No	Name	Page No
1	Autoliv sales development	10
2	Research and Development Costs	12
3	Autoliv capital expenditure, 1997-2002	14
4	Export sales by country/region, 1996-2002	16
5	Export sales, 1996-2002	16
6	Improvements in tooling lead times	18
7	Autoliv Reinvesting in its future	24
8	Penetration of imported vehicles into Australia	31
9	Vehicle Production – Australia (units)	33
10	The “star rating” criteria	39
11	Average age of the car parc	41

Executive Summary

Overview

Based in Victoria, Autoliv Australia Pty Ltd (Autoliv) is part of the global group Autoliv Inc (ALV), a world leader in occupant safety systems with 80 manufacturing plants in 30 countries.

Autoliv supplies vehicle safety products to major automotive producers domestically and abroad, with sales of \$166 million in 2001 and 40% of this figure comprising export activity. The company employs more than 700 people in Australia, and supplies all local vehicle assemblers and an impressive list of customers around the world.

Autoliv's success, and its future are based on:

- A concentration on innovation and technology in the company's operations;
- An on-going commitment to expanding the skills base of the organisation;
- A strong sales base with the local vehicle assembler group;
- Continual reinvestment in the productive capacity of the operation; and
- Collaboration with both suppliers and customers on product and process design and development.

In many regards, Autoliv epitomises the future of the Australian automotive industry. It is the Asia-Pacific Hub for the global automotive group, with a number of initiatives and programs for Autoliv's various Asian operations being managed from Australia. This provides export revenue from product sales as well as royalty streams from technology transfer and licensing arrangements.

The Public Policy Environment

Autoliv's operations are based on very short product life cycles, and a constant focus on innovation and upgrading of the capital stock to remain competitive.

In this context, the Automotive Competitiveness and Investment Scheme (ACIS) is of great benefit to the company. In addition to the direct impact that ACIS has had on a number of Autoliv projects, the company has been reinvesting its ACIS benefits in the future, especially in the areas of productive capacity, innovation and training.

The presence of ACIS, and broader public policy settings that support the industry are important to Autoliv because:

- They assist the company in making business cases to its global parent for investment projects; and
- They provide some parity with the other countries with which the company competes for business, all of which offer some form of government assistance.

In this light, the overall Australian public policy setting is relatively unsupportive of the industry. Very low tariff levels, little access to certain key markets, and the presence of significant R&D support programs overseas places Australia's policy package towards the lower end of comparable countries.

The effects of this situation include the increasing penetration of imported vehicles into the country, a trend that is unsustainable in the medium term.

The Future

Autoliv offers great potential to the Australian automotive industry, both in terms of what it can achieve directly, and in supporting the quality of local vehicles by enhancing their levels of safety technology. This will then offer greater market share opportunities to Australia's vehicle assemblers both domestically and internationally.

However, for this future to be assured, there are steps that must be taken by the Federal Government to provide the right public policy regime. Autoliv recommends that the Government:

- Freeze automotive tariffs at 10% beyond 2005;
- Continue the ACIS Program at current funding levels beyond 2005;
- Through consultation with industry, focus on opening markets for the Australian automotive sector;
- Address the industrial relations environment that is unique to the automotive industry;
- Take steps to lower the age of the vehicle stock; and
- Extend the application of harmonised regulations to apply to the aftermarket, and consider a range of mandatory automotive safety measures.

Section 1 – The Automotive Profile of Autoliv

1.1 Company Structure

Autoliv Australia Pty Ltd (Autoliv) is a wholly owned subsidiary of Autoliv Inc. (“ALV”), based in Sweden. ALV is a Fortune 500 company traded on the New York and Stockholm Stock Exchanges and is globally recognised as the world leader in occupant safety systems with 80 manufacturing plants in 30 countries.

Today, Autoliv’s Australian operations supply vehicle safety products to major automotive producers domestically and abroad. Autoliv’s facilities include a manufacturing plant and a state-of-the-art Test Centre in Melbourne, one of the most advanced of its kind in the world.

Autoliv had sales in excess of A\$166 million in 2001 and is set to achieve approximately A\$200 million in 2002. Some 40% of Autoliv’s total sales are derived from exports, primarily in the Asia Pacific region, a substantial increase from the figure of 15% in 1999.

Table 1: Key historical milestones for Autoliv in Australia

<i>Date</i>	<i>Historical Events</i>
1969	Commence manufacture of seat belts
1971	World First - Australia legislates for mandatory fitment of seat belts to local vehicle production
1976	Commence manufacture of retractable seat belts
1981	Awarded Prince Phillip Prize of Design for Hi Rider Seat
1988	Joined Autoliv Group
1990	Release of Eurobag Systems
1991	Received AS3901/ISO9001 Certification Release of Integrated Child Seats
1992	Released Seat Belt Retractors wholly developed in Australia
1993	Awarded Most Improved Supplier of the Year by Toyota Launched Klippan Child Safety Systems
1994	Commenced Local Assembly of KC1 Webb Clamp Retractors Awarded GM Worldwide Supplier of the Year for Seat Belts and FCAI Supplier of the Year
1995	Awarded GM Worldwide Supplier of the Year for Seat Belts and FCAI Supplier of the Year
1996	Built a world class Crash Facility officially opened by the Honourable Mr. Mark Birrell, MP in July 1996

	Awarded GM Worldwide Supplier of the Year for Seat Belts and Toyota Supplier of the Year
	Received QS9000 Certification
1997	Awarded GM Worldwide Supplier of the Year for Seat Belts
1998	Awarded GM Worldwide Supplier of the Year for Seat Belts
1999	Awarded GM Worldwide Supplier of the Year for Seat Belts
	Received ISO14001 Certification
2000	Awarded Initial Safetymap
2001	Named Employer of Choice for Women by Equal Opportunity for Women in the Workplace
	Short-listed as Leading CEO for the Advancement of Women and Leading Organisation for the Advancement of Women
	Finalist for FCAI Supplier of the Year Award

1.2 Autoliv's Products and Services

Autoliv's products comprise an extensive range of automotive occupant restraint systems and components including:

- *Frontal Airbags* – driver, passenger;
- *Side Airbags* – built in seat, inflatable head curtain;
- *Seat Belts* – retractable, static, pretensioner, web clamps, adjustable shoulder anchorages, load limiters;
- *Steering Wheels* – conventional, magnesium frame;
- *Electronic Control Modules* – crash sensors;
- *Child restraints, Vehicle racing harnesses, Pet restraints;*
- *Full Restraint System Development; and*
- *Full Testing Capability.*

Autoliv's Automotive Test Centre in Campbellfield is the technical hub for the Asia Pacific region. The facility provides the most extensive and technically advanced range of automotive safety testing services in the Southern Hemisphere and has access to Autoliv's network of worldwide expertise. Autoliv's Test Centre is certified by the Federation Internationale De L'automobile (FIA) for the testing of racing harnesses and racing seats.

1.3 Autoliv's Markets

Autoliv supplies Australia's local vehicle manufacturers, Ford, Holden, Mitsubishi and Toyota with a variety of safety products including airbags and seat belts. Autoliv also

exports seat belt assemblies, seat belt components and a range of services to the Asia Pacific region, especially to Korea and South-East Asia. Korean exports are designated for the US market.

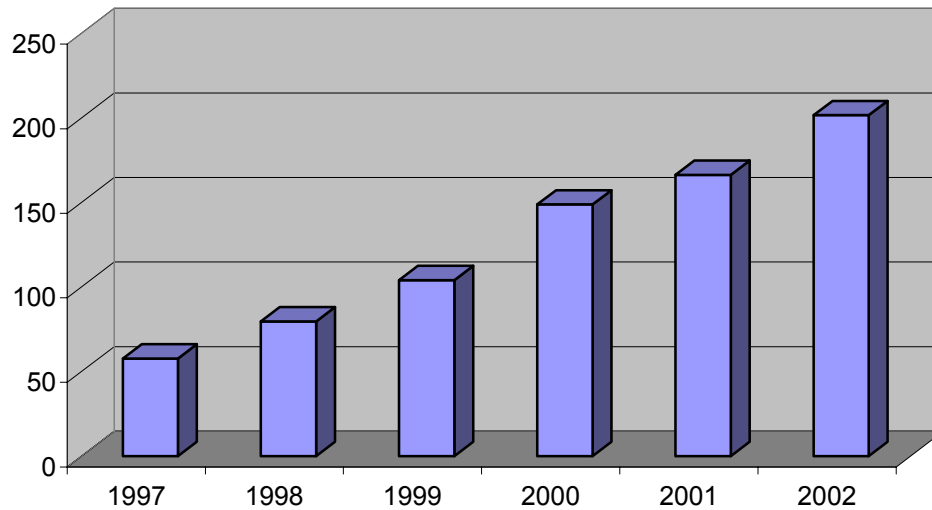
Exports account for 40% of Autoliv’s turnover, with the largest single contributor being the sale of seat belt assemblies to Korea.

Table 2: Autoliv’s product range, export destinations and customers

System/component/service	Destination	Customer
Full Airbag System Development	India	Tata
	China	QAC
	Malaysia	Proton
Airbags (Driver, Passenger, Side)	India	Tata
Electronic Control Unit	India	Tata
Seat belt components and complete retractors	Malaysia	Proton, Perodua, Toyota
	Thailand	Isuzu, GM, ThaiRung, Daihatsu
	Pakistan	Hyundai, Suzuki, Toyota, Plastech
	India	Maruti/Suzuki, Tata, Hyundai, Toyota, GM, Ford, Mahindra, Hindustan, Daewoo
Seat belt components	Taiwan	Nissan, Ford/Mazda, Toyota
	Indonesia	Toyota
	Hungary	Toyota
	Germany	Suzuki
	Sweden	
Retractors	USA	Indiana Mills Manufacturing Inc.

Autoliv also serves as a technical centre for ALV’s Asia Pacific operations, performing development work for the region. Current projects with China and India are explored in greater detail in section 1.7.

Chart 1: Autoliv sales development (\$M)



1.4 Employment and Skills Development at Autoliv

Autoliv is a culturally diverse organisation employing over 700 people in Australia. 76% of Autoliv's employees work directly in manufacturing processes, while more than 15% are engineering or trade qualified. Autoliv's multicultural team incorporates 32 languages including Chinese, French, German, Indonesian, Indian, Japanese, Korean, Swedish, Malaysian and Vietnamese.

Autoliv provides a supportive training and education environment for its employees through in-house programs and the encouragement of external training. Almost 100 employees within Autoliv are degree qualified, and there is an increasing focus on recruiting personnel with higher education or trade qualified backgrounds.

This overall program includes initiatives in the areas of:

- Compliance training;
- Development training; and
- Skills acquisitions.

In 2002, Autoliv has budgeted to spend more than \$1.1 million on training and education, an increase of over 30% on 2001 figures.

Autoliv's linkages with educational and research institutions

Autoliv has an extensive network in training and educational institutions that includes:

- RMIT;
- Kangan Batman TAFE;
- The University of Ballarat; and
- Monash University.

In addition to a range of private-sector training providers.

Over 60% of the training provided by Autoliv is nationally accredited, and incorporates functional areas including:

- Management (up to MBA level);
- Engineering;
- Information technology; and
- Human resources.

In this context, ACIS offers some support to Autoliv's training program, particularly under the initial version of the ACIS regulations. While there is some controversy regarding the current treatment of training under the ACIS program, Autoliv believes that it should be supported to the fullest. It represents an area where the Australian industry must continually focus its efforts to increase its international competitiveness.

1.5 Innovation and R&D Capability

Technological innovation cycles are getting progressively shorter. In Autoliv's case, product cycles can be as short as 2-3 years.

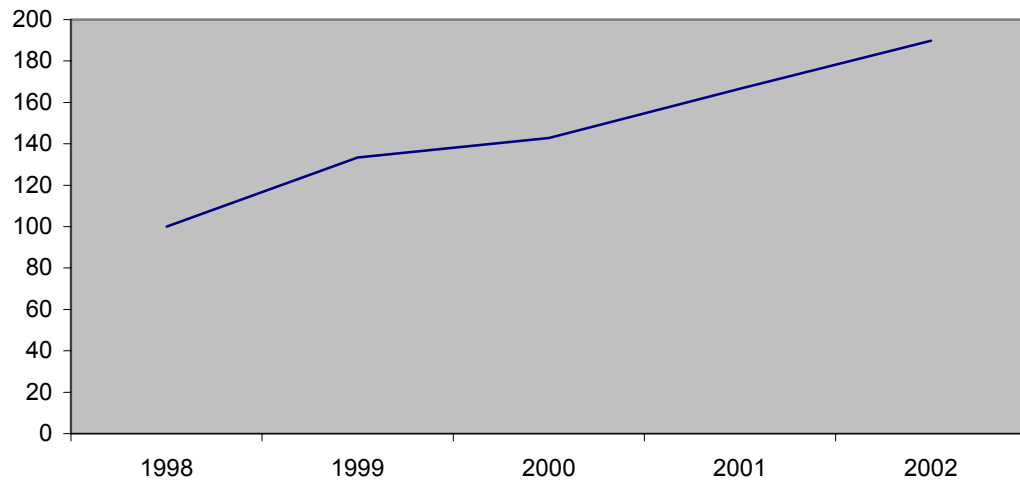
Autoliv is actively involved in research programs on behalf of the Autoliv group and in partnership with the world's leading car manufacturers and Australian road safety research groups.

This creates a substantial requirement for the company to fund R&D and equipment upgrades on a continuous basis. In this capital-intensive environment, ACIS plays a key role in providing the “patient capital” required for this continual investment cycle.

Key success factors in Autoliv’s research and development include:

- Restraint system skills;
- Full system development capability, which includes design and testing;
- Testing & simulation capability and expertise;
- World class product development and project management process/systems;
- Good understanding of customer requirements and expectations;
- Technical competence on new products;
- Ensuring leadership in technology and increased competitiveness of assemblers;
and
- Creating high-end job opportunities.

Chart 2: Research and Development Costs (Base year 1998-Index 100)



Autoliv's World Class Technology Products

Autoliv has amassed an impressive range of research and innovation projects that highlight its expertise and broad customer base.

1990 – Autoliv worked with Proton in Malaysia to develop the seat belts for the 'Saga' vehicle to be exported to Europe. This required the development of the double pivot buckle and our first application of height adjustable anchors. Additionally these products were developed to meet the European regulations.

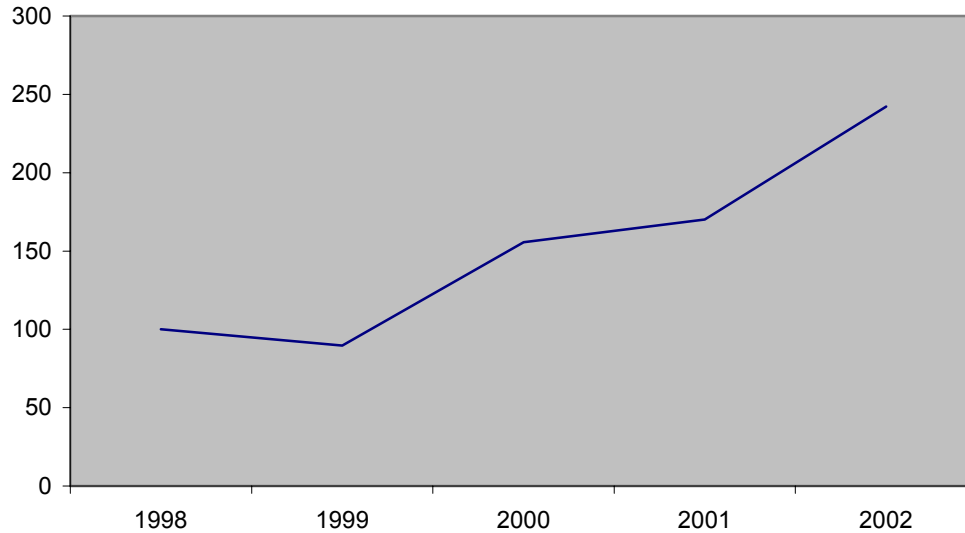
1991 to 1996 - Working with Suzuki in Japan, Autoliv developed seat belts for the 'Alto' vehicle. This vehicle was for sale in Japan and required the development of a special retractor mechanism to meet Japanese regulations and Suzuki specification. The success with this project led to project opportunities with Suzuki (Maruti) in India, another program in Japan and finally a project with Magyar Suzuki in Hungary in 1995.

1999 to present day – Autoliv has been involved with several projects in Korea, collaborating with Hyundai, Kia, Samsung (RSM) and Ssangyong. These projects are for the development of seat belt systems for the vehicles that these customers export to the US. This has introduced Autoliv Australia to other regulations and new seat belt technologies. These projects have required the introduction of retractors, pretensioners and load limiter systems into our product range 2 years ahead of the local market. They have provided Autoliv Australia with knowledge and experience that assists us with the introduction of this new technology to our local customers.

1.6 Capital Investment in the Manufacturing Process

Autoliv has been progressively increasing its investment in new plant and equipment, and in upgrading its existing capital stock.

Chart 3: Autoliv capital expenditure, (Base year 1998- Index 100)



Again, ACIS has supported Autoliv’s ongoing commitment to capital expenditure – which is another pre-requisite to continued success in the global automotive industry.

1.7 Autoliv’s Export Strategy

ALV’s business development strategy for Asia Pacific is based around building world-class resources in Australia to support expansion in the region. ALV’s centre of technical excellence supports new system development in the Autoliv Group. The Autoliv Australia mission is to grow exports of technology, products and services to ALV business units in other less technologically advanced business units in countries such as India, Thailand, Malaysia and Korea.

Autoliv Australia is the regional technical hub for:

- Regional technical expertise on new corporate products;
- “World class” manufacturing process development;

- “World class” quality assurance capabilities;
- Expertise in restraint system regulations from around the world; and
- Expertise in environmental and dangerous goods regulations.

As technical hub, the company is required to support all the activities of its regional joint ventures as they are established and then grow into manufacturing facilities.

Autoliv Australia – Asia-Pacific Hub for the Global group

The process by which Autoliv’s export business develops is firstly, to establish a supply relationship from Australia in a new Asia Pacific market. Once this is established and begins to grow, a suitable business partner is chosen in the ‘local’ market and a joint venture (JV) formed. This JV then commences final assembly processes with AAU guidance. In some cases the JV will also establish sub assembly manufacturing capability. Often, the major sub assemblies continue to be purchased from AAU.

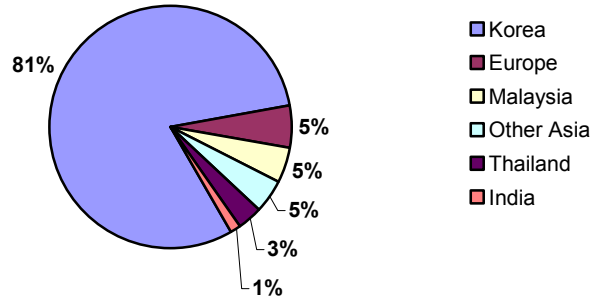
This process has taken place in India, Malaysia, Taiwan and Thailand. It is still progressing in areas such as China and Korea. Countries such as Indonesia and Philippines are yet to be developed although we already have JV’s in place.

This process assures an ongoing export base for AAU and also maintains a level of expertise in product, testing, regulations and process knowledge, needed to support the expanding regional activities.

In addition to exporting products, Autoliv’s strategy for exports incorporates the sale or licensing of intellectual capital. As an example, Indiana Mills Manufacturing, a licensee of Autoliv in the United States, manufactures a retractor that was wholly developed in Australia.

Contracts such as this do more than earn licence fees Autoliv. They also develop a reputation within the global automotive industry that Australia can generate leading edge technology.

Chart 4: Export sales by country/region

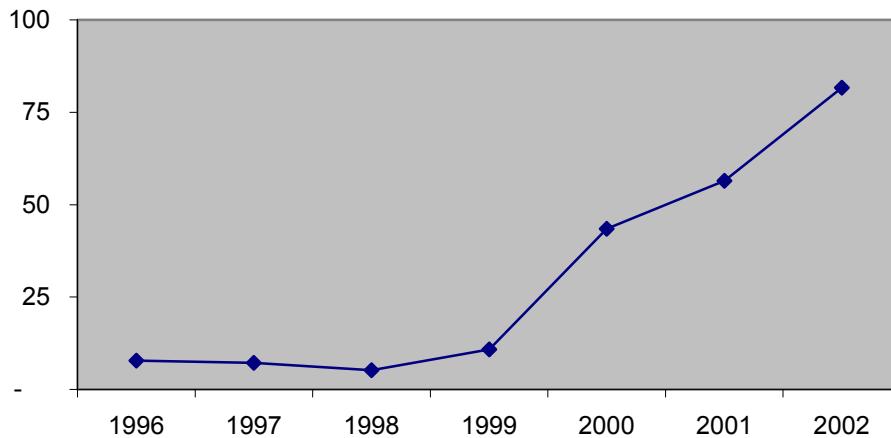


The Korean business represents work with four different customers.

This trend towards earning foreign currency through the development of services exports, or through mechanisms such as royalty streams for technology transfers is becoming increasingly important for the Australian automotive industry. As the local industry moves towards developing niche markets in key technology areas, this type of export revenue will become more commonplace and critical to meeting business plan targets.

The following chart records the growth of Autoliv’s export profile since 1996.

Chart 5: Export sales, 1996-2002 (\$M)



The current ACIS arrangements work to support this trend, especially through its focus on encouraging R&D expenditure. This provides strong momentum to the continuation of technology exports from Australia.

1.8 Supply Chain Development

Autoliv's expertise has positive spillover effects up and down the supply chain.

To supplement its efforts to become a full system supplier, Autoliv is actively participating in vehicle development. In recent years, Autoliv has placed resident engineers within major car companies, such as General Motors Holden and Ford, to assist them in designing interface components. This collaboration is based around accelerating system integration of new technology in the Australian marketplace. This process improves the quality of Australian made vehicles, thereby supporting their position amongst domestic manufacturers, and assisting in the foray into export markets.

Autoliv also works closely with suppliers during initial evaluation and has an internal quality system assessment called AL2000 based on QS9000. Ongoing supplier performance evaluations assess a number of performance related indicators including quality of product and continuous improvement.

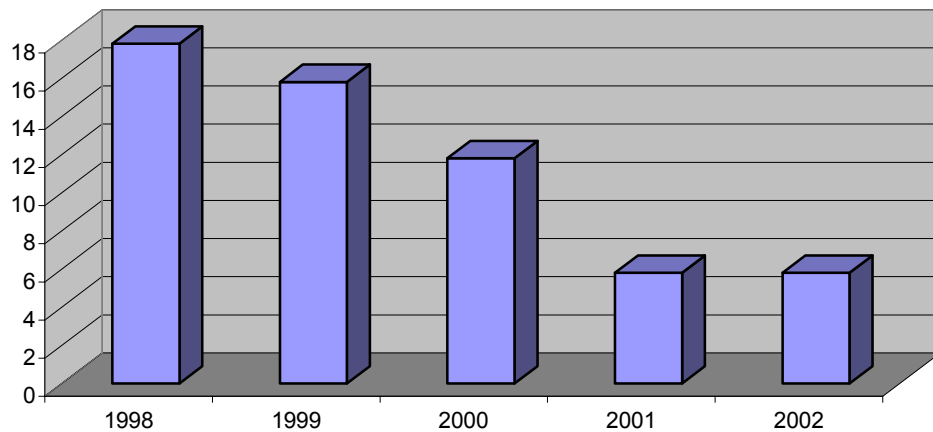
One focus of supply chain development at Autoliv is the ongoing work with suppliers to raise levels of quality systems and procedures. One aspect of this is the major program to introduce the ISO14001 standard for environmental management to the Autoliv supplier base. In November 2001, suppliers were advised that to be considered for future business opportunities, they must achieve this accreditation level or have a detailed plan to introduce it by June 2002.

Positive results from the partnership approach that Autoliv takes to its supplier base is already evident. In 2001, \$1.4 million of purchases were re-sourced from imports to local suppliers, a 210% increase on the import replacement level in 2000.

Case study – reduction in tooling lead times

An example of successful collaboration is Autoliv’s work with its tooling providers in significantly reducing lead times. These lead times have historically been around 16 weeks, and have now been reduced to 3-7 weeks.

Chart 6: Improvements in tooling lead times (weeks)



These improvements also reflect the availability of the ACIS program to the tooling industry. The initiative has assisted them in making ground in improving their competitiveness.

1.9 Autoliv’s Contribution to the Australian Economy

Autoliv commissioned Deloitte Touche Tohmatsu to undertake an analysis of the broader economic impact that flows from its Australian operations, and to identify the ACIS-related component of this contribution for 2001.

This section summarises the results of that study, while Appendices 1 & 2 contain details of the assumptions and methodology employed by the model, and a detailed analysis of results.

The total economic benefit associated with Autoliv’s business consists of direct and indirect economic effects. The indirect activity stimulated elsewhere consists of the flow-

on production and consumption induced by the direct expenditures. This analysis considered the extent of the indirect economic activity associated with Autoliv's whole of business and, separately, its ACIS-induced activities.

The analysis employed Australia Bureau of Statistics input-output tables to determine "production-induced" and "consumption-induced" multiplier effects from Autoliv's operations. Autoliv then provided estimates of the range of its activities that were induced by the presence of the ASIS initiative.

Based on total direct expenditure of \$85.1 million in 2001, the resulting total production-induced effect is \$74.5 million and the total consumption-induced effect is \$86.1 million, making up a total indirect contribution of \$160.6 million, and a total economic benefit of **\$245.7 million** to the Australian economy.

Of this whole of business activity, \$25.6 million of the direct expenditure is ACIS-induced. The resulting ACIS-induced total production-induced effect is \$22.4 million and the total consumption-induced effect is \$25.9 million. This makes up a total indirect contribution of \$48.3 million, and a resulting total economic benefit of **\$73.9 million** to the Australian economy.

From the calculations above, it is evident that approximately **30%** of the total economic benefit generated by Autoliv's activities results from ACIS-induced expenditure.

Section 2 –The effect of current policy settings

2.1 International Competitiveness Trends

Global trends have local impacts

There are a number of emerging trends in the international automotive industry that are impacting directly on the Australian industry, and influencing the prospects for domestic component manufacturers.

In general, more is being expected of first tier component companies. A variety of factors see vehicle assemblers rationalising their number of first tier suppliers. This creates a range of challenges for companies such as Autoliv. Some of the impacts of this trend include:

- Larger funding obligations for component companies, particularly in the realms of carrying design and development costs prior to a product or service going into commercial production;
- Greater responsibility for managing companies further down the supply chain;
- An increased focus on the provision of automotive systems and modularisation, as opposed to the traditional supply of discrete components; and
- Greater investment in working capital before any return is generated.

These global trends are being reflected in the Australian marketplace, and are creating new obligations for the first tier supplier group.

The Automotive Technology Gap

The product space occupied by Autoliv is based around automotive safety technology. This is a field dominated by the Western European market, with vehicle assemblers and component companies leading the development of new technologies and products in the safety field.

It is also an area that is very complex, requiring high-end design, development and engineering expertise. Some of the inputs to automotive safety products involve research into the areas of:

- Pyrotechnics;
- Biomechanics;
- Advanced electronics;
- Mathematical simulations; and
- Finite element analysis.

European automotive consumers demand a high level of safety features in their vehicles. While there is little difference between mandated safety levels in Europe and Australia, the knowledge of, and approach taken to vehicle safety by European consumers drive relatively higher levels of safety. One example is the trend of selling vehicles based on their “star rating”, referring to the degree of safety features offered by a vehicle as determined in laboratory crashes.

These factors have led to a technology gap in the area of vehicle safety between Australia and leading international automotive locations. This gap is in the vicinity of 5-8 years, or around 2 model cycles. Autoliv Australia is working to decrease this gap, through the range of export markets that it is seeking to enter, and as a result of the developing product group it is providing to Australia’s vehicle assemblers.

Through these activities this gap is decreasing. This is in part due to the policy settings adopted by governments over recent years, which have played a role in assisting the industry in becoming more internationally competitive. It also reflects benefits from the ACIS program being applied appropriately.

The narrowing of the technology gap creates ever-increasing opportunities in the Australian marketplace for a range of companies that provide products and services in this arena. In addition to Autoliv, there are 25 companies in the supply base who will also benefit. As vehicle safety increases, the number of safety-related components in a vehicle also grows, thereby creating more activity in this area of the automotive supply chain.

Realising this potential will also require the right policy settings to support the industry. Having appropriate tariff, industry assistance and investment attraction arrangements between 2005 and 2010 will ensure the medium term viability for the industry, and allow it to capitalise on the opportunities in safety technology.

Autoliv Australia, the global Autoliv Group, and the role of ACIS

The Autoliv Global Board, based in Sweden, determines where investment projects are located within Autoliv's global group. Each entity develops its business case and presents it to the Board on a project-by-project basis. This process is typically initiated 3-5 years before a project actually begins commercial production. Consequently, it is critical that the policy-setting environment in Australia provides long-term stability and certainty to support this decision-making process. This will help ensure that the Government has the most efficient setting possible, in that the country will not be missing out on investment opportunities as a result of short-term policy arrangements.

Autoliv has been successful in winning mandates from its parent company to undertake a range of projects in Australia.

A variety of factors contribute to this on-going success. These include:

- A strong automotive skills base and highly trained Autoliv workforce;
- A well developed safety research infrastructure that supports local product development;
- An understanding of the trends and influences on the automotive markets in the Asia Pacific region;
- A strong sales base with the domestic assembler market;
- A capable and dedicated senior management team; and
- A supportive public policy environment.

The environment provided by a supportive policy setting cannot be underestimated. This sends a strong signal to the Autoliv Board that the local industry has the support of the Government. This is highly valued by the Board, given that all Autoliv locations have some type of government assistance regime to support their bids for projects. The ACIS

program is important in ensuring that the Australian position starts from a base commensurate with these other locations.

The ACIS program is of specific assistance to Autoliv Australia. Its benefits include:

- Providing an improved cost-structure for the company on which to bid for projects, thereby making Autoliv more attractive within its global group;
- Creating the ability for Autoliv to develop higher technology products and establish the advanced manufacturing techniques required to support them;
- Assisting the company in bringing forward projects that focus on product and process improvement, thereby making the Australian operation more attractive;
- Improving the quality of Autoliv’s supplier base by ensuring they focus on increasing their R&D levels, and continually upgrading their plant and equipment; and
- Enhancing products and services by being able to include a greater number of features/attributes.

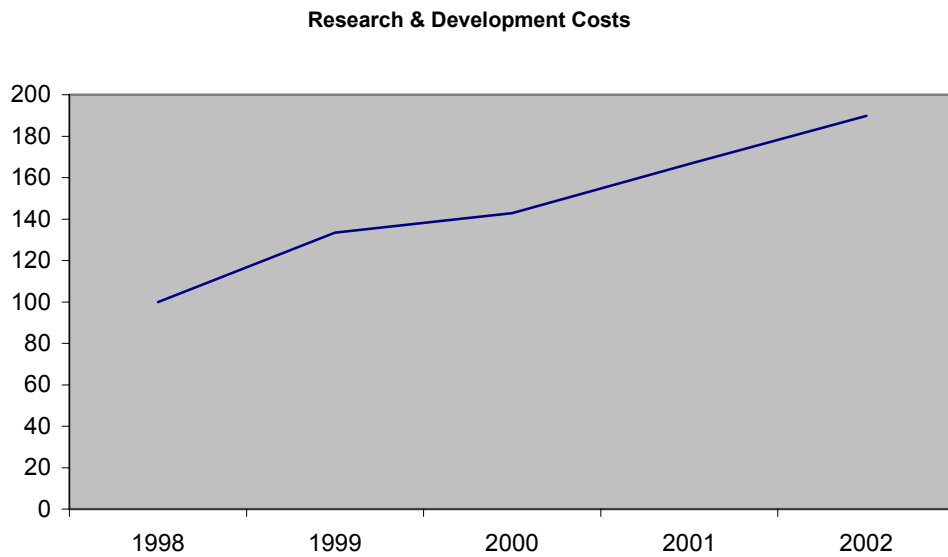
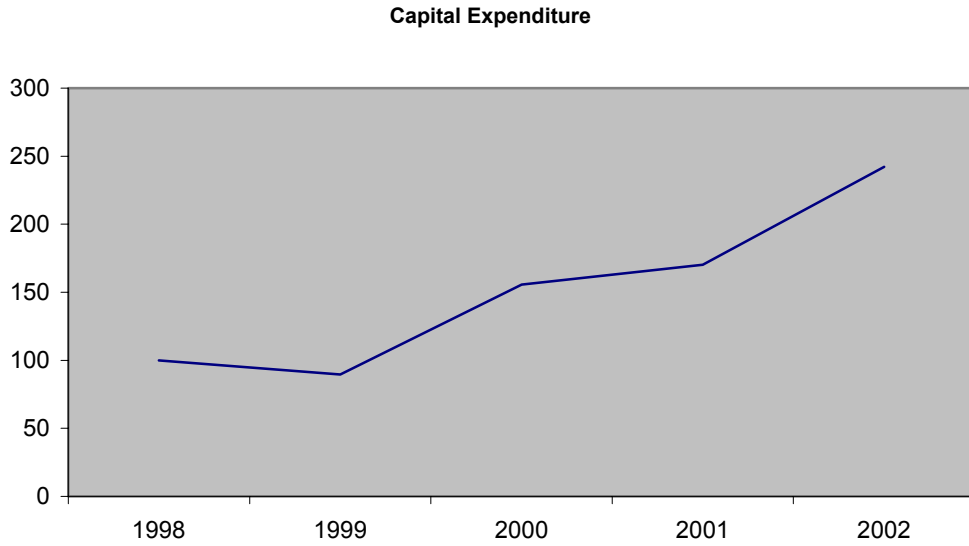
There have been a range of Autoliv projects where ACIS has been instrumental. The following table highlights two of these, and the specific impact ACIS has had:

Table 3: Project-specific impact of ACIS

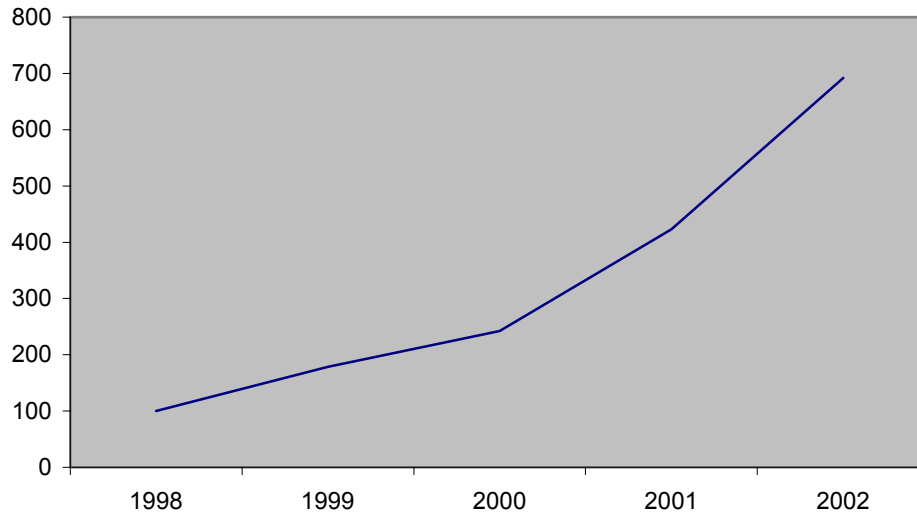
<i>Project</i>	<i>The role of ACIS</i>
<i>Test Centre</i>	<i>ACIS has supported the enhancement of Autoliv’s test facility, which is used to perform a range of safety-related test simulations. The features included in the facility include high-speed video cameras, and equipment supporting the collection of a greater level of information and analysis during crash testing.</i>
<i>Side impact airbag and inflatable curtain development</i>	<i>ACIS has supported the development of an Australian capability in design and manufacture of side impact airbags and inflatable curtains. The Scheme has assisted Autoliv in acquiring the plant and equipment necessary for local production, and has also supported the intensive R&D effort that has gone into the product. These developments elevate Australia to the position where Europe currently sits in relation to this technology.</i>

The movements in some of the key indicators that will drive future growth illustrate the areas where Autoliv has been concentrating its ACIS credits.

Chart 7: Autoliv Reinvesting in its future (Base year 1998 – Index 100)



Training and Education



As these charts show, Autoliv has been reinvesting for the medium to long-term growth of its Australian operations.

2.2 Microeconomic Reform & Taxes

There are no areas within the broad range of microeconomic reform that provide opportunities for significant savings to the Autoliv cost base. While it is an important process for the Government to ensure the local cost base is as efficient as possible, it is not one that provides more than marginal savings opportunities to Autoliv.

Autoliv realised no savings as a result of the advent of the New Tax System.

2.3 Industrial Relations

Autoliv enjoys an extremely harmonious industrial environment, and has not lost one day's production through industrial action for 12 years. Staff turnover is also extremely low, at less than 0.5% per year.

The company has a policy of basing its pay rises on productivity offsets. At no stage has the receipt of ACIS credits been factored into pay negotiations at the company.

It should be noted that like the broader automotive manufacturing industry, Autoliv is a key target of industrial action through its position in a “just-in-time” based supply chain. This means that there are a range of component companies that can stop the assembler production line in a relatively short time frame, making the industry a focal point for potential industrial issues (currently including pattern bargaining, the 36-hour week and workers entitlements).

Autoliv believes that the Government should recognise this unique status, and ensure there are mechanisms in place to reach appropriate solutions.

2.4 R&D Assistance in Australia in the Global Context

ACIS is the only form of R&D assistance to automotive industry

Given the interaction of Section 73C of the relevant taxation legislation and ACIS, the latter becomes the only avenue for R&D-related assistance for the automotive industry.

The effect of 73C and the ACIS legislation itself is to prevent automotive component companies from claiming the 125%/175% R&D Tax Concession or the R&D Start suite of programs in relation to the same activity for which they are receiving ACIS assistance.

While this may be a reasonable approach to take to prevent double dipping, it exposes the automotive industry to some of the vagaries of the ACIS program in regard to its treatment of research and development expenditure.

International R&D Assistance to the automotive industry

The basis for R&D assistance to the automotive industry in other countries is increasingly becoming project-focused, and targeted at vehicle technologies that will support the industry over the medium term (i.e. 10-20 years).

This makes ACIS fundamental to the future success of the Australian automotive industry. A range of other countries boast similar attributes to some degree, and in all cases they offer a larger domestic vehicle volume base than Australia. Additionally, they

all have extremely supportive government policy settings and programs, in many cases both in the areas of R&D and investment attraction assistance.

Autoliv is continually meeting its international challenges by matching the best in the world. A globally competitive policy setting ensures that the overall package of attributes offered by Autoliv will continue to bring global automotive business to Australia.

The following box highlights some of the R&D programs that provide specific support to the automotive industry in other countries:

International Automotive R&D Programs

US

The Partnership for a New Generation of Vehicles (PNGV) is an automotive-specific research program incorporating 26 federal agencies and research laboratories, in addition to DaimlerChrysler, Ford and GM. There is also a range of component suppliers and universities who collaborate with the main players.

There are three aims of PNGV program:

- Development of a fuel-efficient vehicle that maintains affordability, performance and safety while tripling its fuel efficiency;
- Improvement of the competitiveness of the automotive manufacturing sector; and
- To increase the innovation levels of conventional vehicles.

This program has attracted funding of around \$470 million annually since its establishment in 1993.

UK

Late 1997 saw the launch of the Foresight Vehicle Program by the UK Government. The aim of the initiative is to promote technologies and encourage supplier capability to support the type of vehicles likely to be manufactured in 2020.

The focus areas of the program are clean and efficient technologies; lightweight components, telematics and in-car intelligence. This program has received Government funding of \$275 million since its establishment.

CANADA

The Canadian Government established the Auto21 National Centre of Excellence incorporating 26 universities and research institutions and 17 Government departments. It is headquartered at the University of Windsor in Ontario, which is the base of Canada's automotive assembler industry.

Auto21 focuses on research into vehicle safety; new manufacturing processes and materials for future automobiles; new fuels and powertrains; and the integration of advanced electronic systems to improve safety, comfort and convenience.

A recent study completed by Deloitte Touche Tohmatsu (Deloitte) and The Allen Consulting Group (Allen) benchmarked public policy settings for the automotive industries of eleven other countries around the globe. In comparison with developed countries including Germany, Japan, the USA, Canada, Sweden and the UK, the study found that:

“...it appears that Australia trails all but Japan in terms of specific policy actions supporting the automotive industry’s innovation capability building efforts. Australia lacks a major automotive research program and has no institutions dedicated to meeting industry research or training needs.”¹

As a direct point of comparison, Autoliv typically competes with competitor sites in Japan and Sweden. In the Deloitte & Allen study, Japan ranked at a level consistent with Australia in terms of policies that support innovation, while Sweden received a higher ranking, specifically in the area of R&D support.² This highlights the requirement for a supportive Australian policy environment to match competitor locations as projects are allocated by the Autoliv Board.

¹ Deloitte Touche Tohmatsu, The Allen Consulting Group, “Benchmarking the Automotive Industry Policy Environment”, p.62.

² Deloitte Touche Tohmatsu, The Allen Consulting Group, “Benchmarking the Automotive Industry Policy Environment”, p.63.

Section 3 –The Automotive Tariff Rate

3.1 Changes in the Automotive Tariffs

The reduction in automotive tariffs in Australia since 1982 has been severe. The rate of 57.5% that prevailed in the early 1980s, compared with the planned rate of 10% in 2005 highlights the significance of the reduction in both absolute and proportional terms.

This period has coincided with significant changes in tariff direction amongst a range of countries which have consistently sought extensions to scheduled automotive tariff reduction dates, and in some cases, actually increased tariffs on automotive product.

The Deloitte & Allen study highlighted the relatively low tariff rate that prevails in Australia in comparison with a range of other countries. When coupled with the fact that Australia has no non-tariff barriers (where a number of the comparative countries had a range of NTBs in place), this comparison becomes more stark. In a regional context, Australia was found to have a less supportive tariff and non-tariff regime than Korea, Malaysia and Thailand.³

Australia is also in the relatively unique position of continually honouring its tariff reduction schedules, where other countries are constantly seeking extensions to their proposed reduction timelines. An example is recent moves by Malaysia to extend its automotive tariff reduction deadline from 2002 to 2005, (which has been agreed by the Asean Free Trade Area), with calls for a further extension to 2008 already being made.⁴

³ Deloitte Touche Tohmatsu, The Allen Consulting Group “Benchmarking the Automotive Industry Policy Environment”, p.67.

⁴ AutoAsia : 5/2/00 “ASEAN Ministers give Malaysia extension on auto tariffs”. 11/8/01 “Malaysian industry pushes for protection until 2008”.

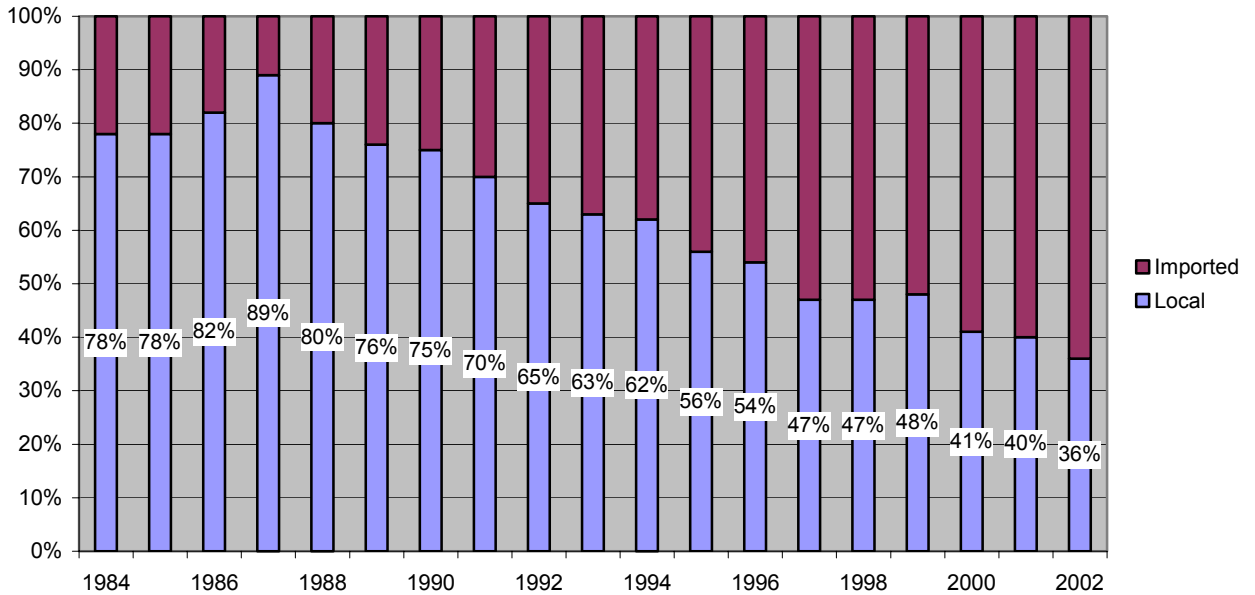
3.2 The Impact of Low Tariff Rates

The impact on vehicle imports

A significant on-going trend resulting from Australia’s continued automotive tariff reductions has been the increasing proportion of domestic new car sales that is attributable to automotive imports.

The following chart highlights the inroads that vehicle imports have been progressively making into the Australian new car marketplace:

Chart 8: Penetration of imported vehicles into Australia⁵ (1984-2001, 2002 forecast)



This trend creates significant issues for the domestic component sector, which is ultimately reliant on the vehicle assemblers for its existence.

What makes this trend a significant concern is the exposure that the assembler market has to a small number of export contracts. The implication of this is that the failure of any of these contracts would have a magnified impact.

⁵ Source: Federation of Automotive Product Manufacturers (FAPM)

The low percentage of domestically produced vehicles also reinforces the issue of the age of the Australian car parc, which is significantly higher than comparable countries. This is explored further in Section 5.

The general level of tariffs in Australia has been the subject of much interest in recent years. In 2000, in a joint statement issued by the Hon Peter Costello, Treasurer, and Senator Nick Minchin, the then Minister for Industry, Science and Resources, indicated that the Government would not seek to reduce the 5% general duty rate on the grounds that “such benefits would be relatively small”.⁶

Presumably the point will be reached where Australia’s ideological commitment to free trade needs to be weighed against the damage being done to the economic base through unilateral reductions in protection. Additionally, the erosion of the tariff rate removes a tactical advantage that Australia has in negotiations around free trade agreements. As the tariff moves lower, Australia loses the ability to use it as a bargaining level in broader market access negotiations.

In light of these developments, and the comparatively low rate of Australia’s automotive tariff, a freeze should be instituted at 10% from 2005.

⁶ Costello, P. (Treasurer) and Minchin, N. (Minister for Industry, Science and Resources) 2000, ‘Government Response to the Productivity Commission Report on Australia’s General Tariff Arrangements’, *Media Release*, T00/116PC, 19 December.

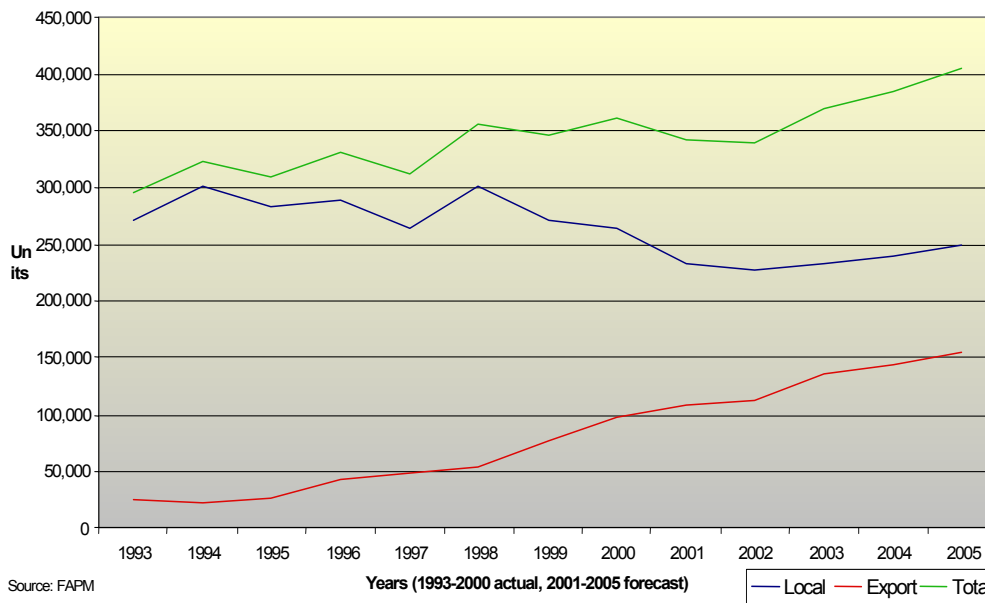
Section 4 –Demand-Side Policies and Trade Access

4.1 Influences on Domestic Demand

Projections for the domestic and export markets

The following chart considers the outlook for vehicle production in Australia.

Chart 9 – Vehicle Production – Australia (units) (1993-2000, 2001-2005 forecast)⁷



The modest growth in these figures underlines the requirement for both the Australian component and assembler industries to continue the development of export markets. The factors affecting domestic growth are also not likely to change significantly, indicating that these flat projections are likely to remain in place for some time.

⁷ Source: FAPM

There are a range of factors that will influence the local demand for Autoliv. These include:

- The penetration of enhanced safety features in domestically produced vehicles;
- The ability of vehicle assemblers to continue to expand their global presence through increased export activity;
- Local manufacturers having a domestic R&D base to support the development of high-tech components that assist them in entering new export markets; and
- Policy settings that help redress the trend towards imported vehicles dominating local new car sales.

4.2 The World Automotive Market

A range of variables affecting global demand

World vehicle demand is affected by a vast range of parameters. Some of these include:

- Global excess capacity in manufacturing plants;
- Changing environmental and fuel economy regulations that may tend to favour smaller vehicles;
- The advent of trade blocs and free trade areas that will impact relative vehicle prices across borders; and
- The on-going rationalisation of vehicle assemblers and their emergence as “brand owners”.

Global investment drivers

In this environment, there are some distinct drivers of automotive investment emerging. Some are based on industry-related trends, while others are a function of economic indicators. These catalysts include:

- The emergence of the “supplier park” concept, which sees vehicle assemblers increasingly demand the location of key suppliers adjacent to their manufacturing facilities; and
- The emergence of “new” automotive economies, often based on relatively low labour costs or substantial government support through overt assistance or protectionist policies.

In the latter category, countries such as Poland, Mexico and China are examples of emerging automotive powers. Whilst manufacturing investment from domestic sources within these countries is growing, global investment is also often attracted to these locations. This results from access to low labour costs, or the requirement of manufacturing “in-country” to gain access to the market, thus avoiding prohibitive trade barriers.

The role for the Australian market

In the face of these substantial global changes, it is more important than ever that the Australian industry continue to focus on the activities that have supported its growth over recent years. A concentration on key strengths, and the establishment of a presence in the higher-value areas of the industry around technology, design and product development will work to continue to attract investment to the country.

Here the role of government policy is critical to maintain parity with these emerging markets that are assisted by substantial packages of government support. The right policy mix will also continue to direct the industry towards investment in R&D and innovation. In this sense, the continuation of the ACIS program is pivotal.

4.3 Market Access

Autoliv believes this Inquiry is an opportunity for the Government to consider a wider range of policy setting issues. One aspect of the overall policy mix that offers substantial potential to assist the industry is market access.

There has been little progress made in advancing the market access issue to the benefit of Australia’s automotive industry.

The Deloitte and Allen study referred to earlier considered the comparative situation of the Australian automotive industry across a range of indicators:

- Tariffs;
- Non-tariff barriers;
- Trade bloc membership;

- Investment incentives;
- Production subsidies;
- Regional aid support;
- Corporate taxes;
- R&D support; and
- Education and training support.

Considering these instruments as an overall package, the study found that Australia ranked toward the lower end of the group of countries considered.⁸

A holistic approach to the various policy settings that impact the Australian automotive industry is the only avenue to continue the improvement in redressing our current global position.

The impact on investment

Should Australia not enter into a targeted free trade agreement, foreign direct investment in automotive manufacturing is likely to suffer. In the Autoliv case, the Board sees investment in countries that are part of a trade bloc as being a preferable scenario. These countries are more attractive on the basis of the increased market that can be accessed from them. In this light, Australia needs to progress its moves towards membership of a free trade zone to ensure that opportunities from global investment are not lost.

4.4 The Automotive Market Access and Development Strategy

The additional measures that were established through the 1997 package of measures included a number of initiatives intended to enhance the market access afforded the Australian automotive industry.

Autoliv believes that these measures have had only modest impact, and in a number of cases where they have been effective, the particular initiative has been discontinued.

⁸ Deloitte Touche Tohmatsu, The Allen Consulting Group, “Benchmarking the Automotive Industry policy Environment, p.68.

PM's Special Envoy

This position was very useful in initiating high-level contact with international government and senior industry representatives on behalf of the Australian industry. Autoliv believes it offered significant assistance across the local industry, from SMEs to larger organisations. It also complemented the more general trade negotiation work being undertaken by the Federal Government.

Automotive Trade Commissioners

Autoliv believes that it is important for the industry to have automotive-specific representation internationally. The four dedicated automotive commissioners offer potential to assist the local industry in entering the global marketplace, particularly to the SME segment.

Competitive Impact of APEC in 2010

Autoliv suggests that the Australian Government take a cautious approach to the commitments that it makes under APEC, and that it reviews the implications for the domestic marketplace that would result from any free trade agreements being implemented.

A key example is given by countries such as Mexico, the United States and Canada, which are all large suppliers of automotive components. Any potential benefits that may flow to the Australian industry through the opening up of markets needs to be offset against the likely impact of countries such as the US and Canada having unfettered access to the local industry.

The treatment of developing countries under APEC is also a cause for concern to Australian manufacturers, with a number able to maintain very high tariffs in the automotive industry until 2020. Countries such as Malaysia and Thailand are a specific concern here. This issue is compounded by each of these countries having a very aggressive, pro-industry policy that also offers substantial investment incentives and R&D assistance to the automotive sector.

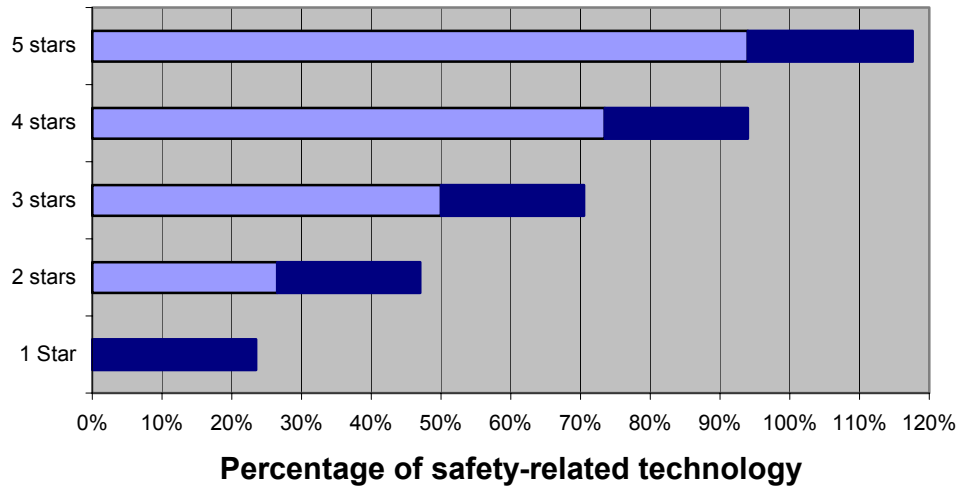
Autoliv believes that the government needs to take a comprehensive look at the implications of APEC obligations for the local automotive industry before undertaking any further commitments that expose the Australian industry.

Section 5 – Safety Standards and Environmental Issues

5.1 Safety Standards

As mentioned earlier, Australia is 1-2 vehicle model cycles, or between 5 and 8 years, behind European vehicles in automotive safety technology. The New Car Assessment Program (“NCAP”), an independent body in Europe and Australia, measures the safety performance of vehicles using the same procedures and measurements in both regions. These measures are derived, as a percentage, from potential injury data from frontal and side impact collisions. For public release this data is usually presented as a ‘star rating’.

Chart 10: The “star rating” criteria⁹



A cross section of the typical (high volume) European cars ranging from small to large in 1996/7 shows these vehicles had a safety performance of 41-56%. Those same cars tested again in 1999/2001 achieved a level of 74-88% with one model recording 97%. As a point of comparison, in 1999/2001, Australian cars achieved 50-64% with the best achieving 71%.

⁹ Source: New Car Assessment Program

Whilst safety has become a marketing issue in recent years, the Australian situation is still well behind Europe and the United States. A prime example is offered in the case of one Australian made vehicle, which is part of a global platform. In Europe in 1998 this car achieved a 74% safety rating. In Australia in 2001 it achieved 64%. Part of this difference is due to the addition of a side airbag that became standard in Europe in 1996, but not yet available in Australia.

In comparing products, the introduction of side impact airbags and inflatable curtains is a clear indication of the lag in safety technology in Australia. In Europe and the United States, side airbags were introduced in the marketplace for 1 to 2 model cycles and inflatable curtains are available in almost all vehicles today. In Australia today, only 1 local manufacturer currently offers a side airbag as an option and inflatable curtains are available only on imported vehicles with a high safety image such as vehicles in the Premier 5 Luxury car category and selected European imports.

Legislation developed by the Federal Department of Transport and Regional Services applies only to new vehicles. There has also been a lengthy period of activity for harmonisation of the Australian Design Rules (ADRs) with European regulations. Autoliv has been supportive of harmonisation and has participated on review committees to progress this issue. One problem in this area is that ongoing compliance to the ADRs is a State responsibility and there is no consistent method of assessment or enforcement. The main actions for national activities have been through the National Road Transport Commission (NRTC), which is focused on truck related issues.

This situation is further confused by the existence of an Australian Standard for Seat Belts, which applies to the aftermarket but is not mandatory. Autoliv has overseas competitors who do not meet this standard and are able to market against the company without any recourse. As a responsible manufacturer Autoliv will not produce products that are not certified to this standard and therefore have a cost and competitiveness disadvantage.

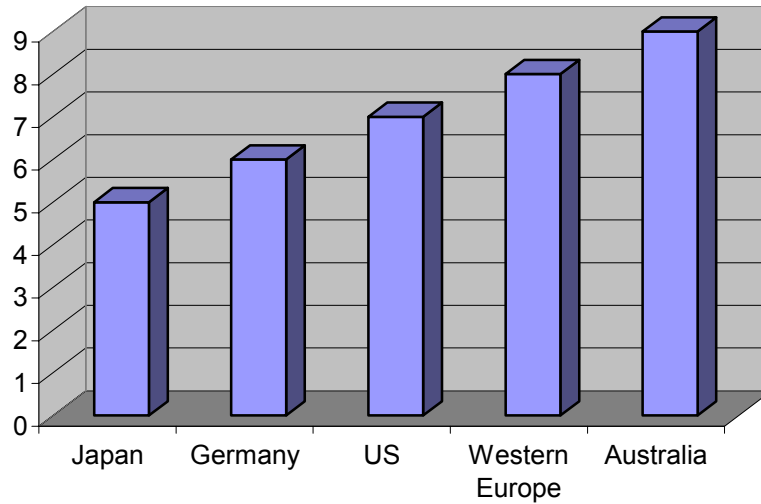
Vehicle Age

The average vehicle age in Australia is approximating 10 years and has increased in the last few years. This has a significant negative impact on safety, the environment and

vehicle sales. Regulations and specific action to reduce this average age will strengthen the automotive business and have positive safety and environment implications.

The following chart highlights the gap in average vehicle age between Australia and a range of international locations.

Chart 11: Average age of the car parc (years)¹⁰



¹⁰ Source: Economist Intelligence Unit, “2001 Black and White Data Book”, Federal Chamber of Automotive Industries

Autoliv Collaboration on Safety Research

Autoliv Australia is involved with a number of different agencies in collaborative research on road safety. Following is selection of these agencies and initiatives that are currently underway.

Department of Transport and Regional Services:

- Side Impact Regulation Review leading to the acceptance of the harmonisation of ADR72 with ECE regulations.

Monash University Accident Research Centre

- Night Vision Goggles in Armoured Personnel Carriers
- Australian National Crash In-depth Study - reviewing the injury performance of crashed vehicles up to 10 years old. The expected outcome will show the improved performance of vehicles designed with crash performance in mind and to indicate the reduced injury costs if the car parc age was reduced.
- Improved Side Impact Protection Study that reviewed a new procedure and measure for the development of improved side impact in the real world.
- Farside Side Impact to develop a test method by which this form of side impact could be evaluated with the potential to develop countermeasures for the injuries.
- Side Impact Compatibility - comparing injury levels between standard and high geometry vehicles. The outcome highlighted the importance of geometry as a major factor in the injury to the occupants in the target car. This project was undertaken with a number of Swedish Institutes and Insurance companies.

Monash Civil Engineering Department

- Road Side Barrier Impact Tests - to compare various roadside barriers for crash safety. This series was conducted for Australian and Swedish markets.

Industry Cooperation

- Autoliv Australia was chosen as a suitable test facility to conduct comparison tests on a proposed new frontal impact dummy called 'THOR'.
- Autoliv Australia was chosen as the first test facility to conduct a full scale crash test using a proposed new side impact dummy 'WorldSID'.

These opportunities maintain Autoliv's involvement in leading edge testing developments, and helps the company support its local and international customers with up to date knowledge and capabilities.

5.2 Environmental Issues

As a global company, Autoliv is compelled to meet the regulations of all our markets for environmental issues. We therefore have high standards with regard to our purchased parts and internal processes. Autoliv operates to ISO14001 and has several internal standards that are applied to our purchased parts. These prevent the company from using materials that are restricted or banned in any country in the world and ensure a very high level of environmental responsibility.

This level of responsibility is being passed down to Autoliv's suppliers today. With each RFQ from a supplier, Autoliv issue an "AS-5 standard", which the supplier must complete to confirm the status of the raw material of the product in relation to the AS-5 restricted and banned substances. The group has a listing of all known raw materials and the levels at which they can be used to achieve a safe environment for the production and supply of parts. This has raised the overall awareness amongst the supply base domestically and internationally and has led to the removal of all hazardous materials from the company's product range.

Recent changes in Europe are mandating the elimination of the use of lead and hexavalent chrome to support the European recycling requirements. The changed product designs/processes will become the Autoliv standard in future.

With these activities, Autoliv can influence its component suppliers to improve their environmental impact. This creates further benefits to Australia.

Federal Government Greenhouse Challenge

In May 2000, Autoliv entered a Greenhouse Challenge agreement with the Federal Government. This initiative is aimed at reducing the emissions of greenhouse gases.

Autoliv's focus in this program is to reduce the amount of power used in its manufacturing operations, and to minimise the waste associated with its activities.

The company has identified around 20 actions points to reach its target of reduce associated greenhouse gas emissions by 350 tonnes per year. This is part of a cycle of continuous improvement, where new opportunities for savings are identified by people at all levels of the organisation.

Section 6 – Developing a Future of Growth for Autoliv Australia

6.1 Key Competitiveness Drivers

Autoliv has a strong future in the Australian marketplace.

The realisation of this potential is based on a range of factors. These include:

- A strong demand for automotive products locally and internationally;
- An excellent R&D capability to develop innovative products and to manufacture those products efficiently, and a technical ‘culture’ to support engineering excellence;
- A competitive up-stream supply chain;
- A well developed local infrastructure including relatively stable industrial relations and high quality education to deliver world standard engineering resources;
- An OEM base in Australia to foster and test new product development and to provide the base manufacturing volume for exports; and
- A supportive government policy environment.

The government policy environment is a critical aspect of this overall mix, and is the basis for some of these other pre-requisites. It is also vital to ensure that Australian automotive companies are in a position to compete for international business with companies that receive substantial assistance from their own governments.

6.2 The Autoliv future and the Australian industry

Growing the Autoliv business brings a range of benefits to the Australian automotive industry and the economy more broadly.

The local industry will be strengthened by the collaboration of significant technology providers. This drives the development of world-class vehicles, which demand technology levels commensurate with the rest of the world.

Autoliv will be a critical player in this process. The company aims to be a full service provider capable of system design, development, validation and production. The value that the company's products and technology offers its customers will ensure the localisation of safety technology, and enables domestic assemblers to produce vehicles that are competitive with the global industry in cost, quality, service and technology.

Autoliv has the potential to be a \$280 million business in 2010, employing 800 people and providing high-end products and services to the domestic and global automotive industries.

Again this position is dependent upon the right government policy settings being in place. These settings post 2005 will secure the continued rapid development of Autoliv's technical capability through leading edge R&D and state of the art manufacturing processes. This will ensure Autoliv's on-going contribution to an Australian automotive industry that is world competitive.

Section 7 –Recommendations

In providing these recommendations Autoliv believes that the over-riding philosophy of the Federal Government should be to take a holistic view of the development of public policy settings for the automotive industry. In addition to tariffs and industry assistance, the automotive sector requires leadership in the areas of trade access, the R&D and training infrastructure, industrial relations and on-going microeconomic reform as part of a comprehensive industry policy.

Autoliv's specific recommendations are:

Recommendation One

That the Federal Government freezes automotive tariffs at 10% from 2005. This tariff should be maintained until reductions in tariff and non-tariff barriers are made by current and potential automotive trading partners. The identification and prioritisation of these countries needs to be made in consultation with the automotive industry.

Recommendation Two

That the Automotive Competitiveness and Investment Scheme be continued beyond 2005, and funded to current levels. This step must be taken to assist Australian policy settings for the automotive industry bridge the gap with those afforded to other industrialised countries.

Further, that the following alterations be made to the program:

- *That there be greater accountability in the manner in which recipients spend their ACIS credits. This will ensure that the intended recipient benefits from the credits.*
- *That there be performance indicators in place that Scheme participants must meet on an annual basis. This could be in the form of deliverables associated with jobs, level of technology introduced etc.*

Recommendation Three

That the Government pursues market access negotiations with a range of countries, and continue to move towards Australia's inclusion in a free trade zone. That these steps be

undertaken after consultation with the automotive industry regarding the preferable countries and zones to be targeted. These steps will offer the industry greater access to global volumes, help address the automotive trade deficit, and will ensure that investment into the country is not compromised as a result of not having access to a free trade zone.

Recommendation Four

That the Government recognise the unique status of the automotive industry that makes it a target for certain types of industrial action. Further, that the Government take steps to find an acceptable solution to the employee entitlements issue as a priority, and that it take a greater role in enforcing measures against unlawful industrial action.

Recommendation Five

That the Government takes steps to lower the age of Australia's vehicle stock. That consideration is given to initiatives in place in other countries that have been successful in dealing with this issue. In addition to providing a stimulus to the industry, this will ensure safer, more environmentally sound vehicles on Australia's roads.

Recommendation Six

That the government extend the application of the 'harmonised' regulations to apply to aftermarket product and provide a national enforcement standard to replace the state-by-state system of today. Further, that the Government investigate proposals under consideration in New Zealand regarding the compulsory replacement of seat belts in vehicles at 10 years of age, and after accidents. Any or all of these actions would help to improve the safety of vehicles on the road and reduce the injury levels.

Appendix 1 - Economic Impact Study

Conceptual Framework

The economic value of Autoliv's business consists of both *quantifiable* and *unquantifiable* elements. The quantifiable economic value can be further segmented into *direct* expenditure and the *indirect* economic activity generated by that expenditure. While the direct and indirect effects are calculated separately, they are ultimately combined to give a single economic value. The unquantifiable effects are presented and discussed separately.

Direct Benefits

Identifying the direct economic benefits deriving from Autoliv's total business activities is relatively straightforward as these are essentially the economic activities directly related to Autoliv's total expenditures. The expenditures are broken down into:

- Operating expenses (including materials and overheads);
- Labour (wages and salaries);
- Taxes; and
- Capital expenditure.

Each item of expenditure, listed above, is then allocated directly across the 35 Australian New Zealand Standard Industrial Classification (ANZSIC) industry categories.

That proportion of business expenditure that is directly induced by ACIS is estimated using Autoliv's responses to an ACIS-based survey distributed to all ACIS recipients. Autoliv was required to estimate what their expenditures would have been if ACIS did not exist. The ensuing difference between actual expenditure levels and the hypothetical estimate is then taken as ACIS-induced expenditure for each of the items listed above and allocated across ANZSIC categories using the same method as for the whole of business expenditures.

More specifically, for total expenditure on wages and salaries, the amounts are allocated across the appropriate ANZSIC categories using the ABS *Household Expenditure Survey 1998-99* (Catalogue No. 6535). This is based on the assumption that all of the wages received by households will be spent in certain ANZSIC categories.

Similarly, taxes are allocated across the relevant ANZSIC industries using the breakdown of total government expenditure as reported in the ABS *Government Finance Statistics 2000-01* (Catalogue No. 5512).

Indirect Benefits and Input-Output Analysis

Quantifying the indirect benefits requires a more detailed analysis of the direct expenditure items. The indirect economic benefit refers to the financial transactions generated as a result of the direct expenditure associated with Autoliv's business activities. Indirect impacts are largely the flow-on demand created for other goods and services in the economy. Calculation of the indirect benefit requires use of the input-output methodology. The approach to this part of the analysis is best illustrated by example.

The expenditure on plant and equipment would constitute part of the direct contribution. In turn, the providers of the specific piece of equipment will use that expenditure to purchase the inputs to providing that equipment (machinery, metals, tools, etc.). These purchases, in turn, create a demand for inputs into the production process of the suppliers of machinery, tools etc. Thus, a flow-on effect, termed the production-induced effect, is created throughout the economy by the initial expenditure on an item of equipment. In addition to this, the wages component in the inputs used for the equipment are used for immediate consumption in other sectors or alternatively saved, thus generating investment throughout the Australian economy. This process is known as the consumption-induced effect.

The total indirect economic contribution is measured using input-output tables that explain the inter-relationships between the different sectors of an economy. Input-output analysis involves calculating the economic impact that one sector of the economy has on other sectors of the economy using flow tables – the tables for Australia are produced by the ABS. Flow tables measure supply and demand linkages between all industries in the economy by recording the industry destination for outputs and the industry sources for intermediate inputs. These flow tables also enable estimation of multipliers that can be applied to the direct economic expenditure of a business or event in order to estimate the total indirect economic expenditure associated with that business or event.

The input-output analysis has been performed for Autoliv's whole of business operations and

those activities that are considered to be induced by ACIS.

Data sources

Information on the total expenditure levels for 2001 and 2002 was collected from the company. Only nine months of data were accessible for each year, therefore these figures have been annualised to represent 24 months of expenditure. Autoliv also provided the information on the ACIS-induced effects via completion of the ACIS survey.

The Australian Bureau of Statistics (ABS) *Household Expenditure Survey 1998-99* (Cat No. 6536) was used to allocated wages and salaries into the relevant ANZSIC categories). Similarly the ABS *Government Finance Statistics 2000-01* (Cat No. 5510) was used to allocated taxes into the relevant ANZSIC categories.

The indirect effects are calculated by applying the relevant ‘production-induced effect’ and ‘consumption-induced effect’ multipliers to the expenditure in each industry. The multipliers are obtained from Table 15 of the publication *Australia Input-Output Tables 1996-97*, ABS Catalogue No. 5209.0. The large amount of data required and the complexity of tabulating flows between sectors result in a substantial lag between the reference period and the date the input-output tables are published. The 1996-97 input-output tables are the most recent available and were released in March, 2001. The methodology employed to calculate the multipliers used in this report is detailed in the publication *Introduction to Input-Output Multipliers* (ABS Catalogue No. 5246.0).

Isolating the impact of ACIS

One key measure that this report is seeking to quantify is the broader contribution made to the economy through Autoliv’s ACIS-driven activities.

To isolate this impact, the following steps were taken:

- Autoliv estimated the amount of activity that it undertook in 2001/02 that resulted from the presence of the ACIS initiative.

This involved a consideration of 2001/02 projects that were planned as far back as 1998. At that time, the company knew the ACIS initiative would exist, and what its broad parameters would be.

- This ACIS impact was measured across three broad expenditure categories. Specifically, the expenditure on:
 - Research and development expenditure;
 - Plant and equipment expenditure; and
 - Value of production

following the removal of ACIS funding was calculated.

- These three ratios were then applied on a line-by-line basis to the relevant items of Autoliv's expenditure items in 2001/02.
- The input-output model was then applied to these ACIS-induced expenditures in order to determine the economic effects of the ACIS program

Appendix 2 – Economic Impact Study – Input/Output Calculation of ACIS – Induced Expenditure

Please note that each figure in the direct expenditure column is a total of Autoliv's expenditure plus allocations from the wage, salary and tax payments that the company makes. Therefore while the total of the column reflects ACIS-induced payments made by Autoliv in 2001, the individual line items do not reflect direct payments made by the company in each category.

Autoliv Australia Pty Ltd - Economic Impact Analysis
Input- output multipliers Table 15 ABS Cat 5209.0 Inout- output tables

ANZSIC Category		Direct Expenditure	Production-induced multiplier	Consumption-induced multiplier	Production-induced effect	Consumption-induced Effect	Total Indirect Impact	Total Economic Benefit
Agriculture; hunting and trapping	1	11,836	0.793	0.618	9,386	7,315	16,701	28,538
Forestry and fishing	2	11,836	0.919	0.822	10,878	9,730	20,607	32,444
Mining	3	5,950	0.704	0.676	4,189	4,022	8,211	14,161
Meat and dairy products	4	328,097	1.423	0.889	466,883	291,679	758,561	1,086,659
Other food products	5	1,257,332	1.254	0.932	1,576,695	1,171,834	2,748,528	4,005,860
Beverages and tobacco products	6	389,147	1.167	0.776	454,135	301,978	756,114	1,145,261
Textiles	7	1,672,651	1.150	0.976	1,923,549	1,632,508	3,556,057	5,228,709
Clothing and Footwear	8	398,261	0.959	0.979	381,933	389,898	771,830	1,170,092
Wood and wood products	9	0	0.975	1.009	0	0	0	0
Paper, printing and publishing	10	97,846	0.789	0.931	77,200	91,095	168,295	266,141
Petroleum and coal products	11	11,941	0.749	0.382	8,944	4,562	13,506	25,447
Chemicals	12	1,672,651	1.034	0.811	1,729,522	1,356,520	3,086,042	4,758,693
Rubber and plastic products	13	1,672,651	0.856	0.887	1,431,790	1,483,642	2,915,432	4,588,083
Non-metallic mineral products	14	15,407	1.080	0.930	16,640	14,329	30,969	46,376
Basic metals and products	15	1,672,651	1.278	0.820	2,137,649	1,371,574	3,509,223	5,181,874
Fabricated metal products	16	1,672,651	1.116	1.068	1,866,679	1,786,392	3,653,071	5,325,722
Transport equipment	17	0	0.883	0.832	0	0	0	0
Other machinery and equipment	18	2,665,841	0.883	0.943	2,353,938	2,513,888	4,867,826	7,533,667
Miscellaneous manufacturing	19	0	0.989	1.056	0	0	0	0
Electricity, gas and water	20	310,097	0.697	0.649	216,138	201,253	417,391	727,488
Construction	21	33,763	0.904	0.962	30,522	32,480	63,002	96,766
Wholesale trade	22	0	1.002	1.228	0	0	0	0
Retail trade	23	678,176	0.869	1.376	589,335	933,171	1,522,506	2,200,682
Repairs	24	310,937	0.471	0.798	146,451	248,128	394,579	705,516
Accommodation, cafes and restaurants	25	29,412	0.941	1.050	27,677	30,883	58,560	87,972
Transport and storage	26	2,465,298	0.796	1.023	1,962,377	2,522,000	4,484,378	6,949,676
Communication services	27	129,047	0.613	0.924	79,106	119,240	198,346	327,393
Finance and insurance	28	710,119	0.536	1.100	380,624	781,130	1,161,754	1,871,872
Ownership of dwellings	29	797,022	0.241	0.140	192,082	111,583	303,665	1,100,687
Property and business services	30	2,814,434	0.851	1.135	2,395,083	3,194,382	5,589,465	8,403,899
Government administration services	31	233,047	0.722	1.506	168,260	350,969	519,229	752,276
Education	32	293,790	0.181	1.853	53,176	544,393	597,569	891,359
Health and community services	33	1,248,158	0.375	1.627	468,059	2,030,753	2,498,812	3,746,969
Cultural and recreational services	34	1,174,844	0.744	1.053	874,084	1,237,111	2,111,195	3,286,040
Personal and other services	35	815,542	0.475	1.416	387,382	1,154,807	1,542,190	2,357,732
Total		25,600,442			22,420,365	25,923,248	48,343,613	73,944,055

Source: ABS Input-Output Tables, Catalogue No. 5209.0 1996-97, Table 15