LOCAL CONTENT AND

RELATED TRADE POLICY:

AUSTRALIAN APPLICATIONS

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DECLARATION

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ABSTRACT

Local content schemes provide protection for domestic intermediate input-producing industries by encouraging producers of final products (goods and services) to purchase a minimum proportion of their inputs from local producers.

This thesis analyses the effects of this type of scheme on three industries, one each from the agricultural, manufacturing and services sectors: the Tobacco, Automotive and Broadcasting industries in Australia. It finds that local content schemes often result in high levels of assistance to the protected input-producing industry, with consequent wastage of resources and high costs to other areas of the economy. It is a relatively hidden form of protection, and each of the industries studied has developed entrenched and powerful interests that have been able to ensure the continuation of assistance over and above that afforded other industries.

Local content schemes became illegal for goods (but not services) under the World Trade Organization (of which Australia is a member) following the Uruguay round of negotiations (completed in 1994). As a result, local content policy has been phased out in the tobacco and automotive industries, but it continues to be used in the broadcasting industry in Australia.

In addition, local content still plays a significant part in Government purchasing. The insights arising from this thesis can be applied to this area of policy. Government procurement rules (currently subject to a plurilateral but non-compulsory World Trade Organization (WTO) agreement) are under further negotiation in the
current WTO round of multilateral trade negotiations. While Australia is at present not a signatory to the existing plurilateral agreement, joining is an option and so it is appropriate to focus here on the implications of local content provisions in Australia’s current state and federal government procurement arrangements.

Finally, this thesis looks at an application of this theory to an area that is becoming increasingly important internationally, namely rules of origin. An increasing proportion of world trade is taking place on a preferential basis, within free trade agreements or customs unions, and also under other preferential trading arrangements. Rules of Origin have become an increasingly complex part of these arrangements, necessary to ensure that products do originate from the country that is allowed preferential access to the other country’s markets.

Many of the results applicable to the industry studies in Australia apply to this international setting as well. Rules of origin are often complex, costly to administer (resulting in wastage of resources), distorting to international trade patterns in a way that can impose high costs on third parties, and covertly provide high levels of protection to some industries.

This study attempts to bring to the fore some of the economic costs and political economy considerations associated with the application of local content policies. The key implication is that local content policy is a high-cost way of providing protection to industries in Australia. Given that finding, further careful study of the effects of rules of origin internationally is needed so as to similarly make explicit the costs and distortions associated with their application.
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LIST OF ABBREVIATIONS

ABA – Australian Broadcasting Authority

ABC – Australian Broadcasting Corporation

ABS – Australian Bureau of Statistics

ACIS – Automotive Competitiveness and Investment Scheme

ACPs – Automotive Components Producers

AFR – Australian Financial Review

AIHW – Australian Institute of Health and Welfare

AMTP – Automotive Machine-tool and Tooling Producers

ANZ – Australia/New Zealand

ANZCER – Australia/New Zealand Closer Economic Relations

ASPs – Automotive Services Providers

ATB – Australian Tobacco Board

BSA – Broadcasting Services Act

CER – Closer Economic Relations

DCs – Developing Countries

EFS – Export Facilitation Scheme

ERP – Effective Rate of Protection

FACTS – Federation of Commercial Television Stations

FTA – Free Trade Agreement

GATS – General Agreement on Trade in Services
GATT – General Agreement on Tariffs and Trade
GDP – Gross Domestic Product
GMH – General Motors Holden
GST – Goods and Services Tax
HCA – High Court of Australia
HDTV – High Definition Television
HoR – House of Representatives
IAC – Industries Assistance Commission
IC – Industry Commission
LCR – Local Content Requirement
LCS – Local Content Scheme
MC – Marginal Cost
MVP – Motor Vehicle Producers
NAFTA – North American Free Trade Agreement
NSW – New South Wales
PC – Productivity Commission
PMVs – Passenger Motor Vehicles
R & D – Research and Development
ROOs – Rules of Origin
RTAs – Regional Trade Agreements
SBS – Special Broadcasting Service
TISP – Tobacco Industry Stabilisation Plan

TRDC – Tobacco Research and Development Council

TRIMS – Trade Related Investment Measures

TV – Television

USA – United States of America

WST – Wholesale Sales Tax

WTO – World Trade Organization
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CHAPTER 1: INTRODUCTION

1.1 The issue

Local content schemes provide protection for domestic intermediate input-producing industries by encouraging producers of final goods and services to purchase a minimum proportion of their inputs from local producers. They have been used in a number of industries in Australia in the past, including tobacco growing, passenger motor vehicles, industrial machinery, agricultural tractors, orange juice and aerospace industries [IAC, 1984]. A local content scheme continues to operate within Australia’s television industry.

Local content schemes for goods became illegal under the Uruguay Round multilateral trade negotiations that led in 1995 to the formation of the World Trade Organization (WTO). Since then their use within Australia has been limited, though local content policy continues to have a significant role in the television industry in Australia. In addition local content considerations still play a part in government procurement decisions. Local content schemes are also used by numerous developing countries.

Rules of origin, which form part of any preferential trading arrangements, have some of the same effects as local content policy. With the proportion of world trade that is taking place on a preferential basis high and rising, rules of origin are becoming an increasingly important area of study. In recent years, Australia has been seeking to form more preferential trading agreements with some of our near neighbours and with the United States of America. Rules of origin will necessarily be part of these agreements.
The present thesis began as a study of the local content scheme in the tobacco industry in Australia. Two points stand out:

(i) During the 1970s the tobacco growing industry was one of the most highly assisted industries in Australia [IAC, 1981]. This high level of assistance continued through the 1980s and into the 1990s. A significant part of this protection came from the local content scheme that operated until 1995.

(ii) In the early 1970s the tobacco products industry was referred to as one of the three most profitable in Australia [Tariff Board, 1972/73]. This was still the case a decade later, when in 1981 the Industries Assistance Commission (IAC) conducted its first report on the industry in thirty years.

These points raise questions as to how the local content scheme operated in the tobacco industry, and how this particular form of protection affected that industry both at the input (leaf growing) level and the final good (tobacco products) level. How did the scheme affect the rest of the economy, in terms of efficiency of resource allocation and consumer welfare? This in turn begs an examination of how similar schemes operated in the manufacturing and services sectors.

The tobacco industry study is a reasonably straightforward example of a local content scheme. The automotive industry study provides an interesting extension to the discussion: the introduction of an export facilitation scheme. The latter scheme was introduced with the ostensible aim of reducing some of the distortions created by other forms of protection, including the local content scheme. Both schemes have since become inconsistent with WTO rules, and were ended in 1989 and 2000, respectively.
The local content scheme operated in conjunction with the export facilitation scheme in the automotive industry for ten years, from 1979 to 1989.

The third industry studied is the television industry. This industry has a local content requirement that is still operating, unlike the other two industries’ schemes. It also extends the analysis by applying it to a service sector with some public good characteristics.

The theory also applies to rules of origin and government procurement. Rules of origin are becoming increasingly important with the growth of regional trade agreements, while government procurement rules are subject to further negotiation in the next round of multilateral trade negotiations at the WTO, which was launched at the end of 2001. At present the WTO’s procurement rules are subject only to a non-compulsory plurilateral agreement, to which Australia is not a signatory.

There are differing reasons why the government strives to achieve the non-economic objective of ensuring there is at least some minimum level of Australian content in the production of a good or service. It may simply be the protection of some types of primary producers, as seemed to be the case in the tobacco growing industry. This may arise because past protection has strengthened the political power of these groups allowing them to lobby more successfully for continued protection. They may be able to point to adjustment costs they would inevitably face if protection were reduced. ‘Working the land’ has long been part of the Australian psyche, and often considerable public feeling can be mustered in the face of farmers losing farms their families may have worked for generations.
In the automotive industry, production of an ‘Australian’ car has also been part of the Australian psyche since the very early years of car manufacturing. Nationalism has fuelled this, aided considerably by regional development concerns within Australia, where the possibility of closure of car plants in particular regions (with associated adjustment costs having to be borne disproportionately by those regions) can excite a great deal of public outcry.

In the absence of externalities or market failure, protection via a local content scheme can impose significant economic costs on the whole economy, while benefiting a relatively small section of the population, i.e. producers in the protected industry. These costs include higher prices paid by consumers and the diverting of resources away from other activities where they otherwise would be used, and would be more socially productive. The LCS also needs to be accompanied by protection for the producers of the final product who have been encouraged to use local content, if they are to maintain their international competitiveness.

Does the existence of externalities strengthen the arguments for local content protection? In the tobacco industry there may be considerable negative externalities (in the form of health costs) associated with the consumption of the final good, i.e. cigarettes. Thus a free market/free trade price would encourage consumption greater than is optimal if the negative externality is taken into account. The optimal way to deal with the consumption externality is to impose (as Australia and many other countries do) a tax on its sale to consumers (regardless of whether it is produced domestically or imported).
To the extent that the higher cost of the intermediate input under the LCS (and any consequent protection for the final good manufacturers) increases the price to the consumer, this could be viewed as an alternative way of internalising the externality. The difference in the revenue received by the government and the prices received by the growers and manufacturers under the LCS, as compared with the free trade plus consumption tax option, is simply a transfer between the parties.

In the automotive industry higher costs of cars as a result of local industry protection coupled with compensatory increases in protection for final good producers may have negative public health externalities resulting from an increased average age of cars on the road. These include increased levels of emissions, slower adoption of new safety technology and more (potentially hazardous) maintenance problems. These negative externalities have to be weighed against the possibility that there may be more cars on the road (and hence increased road congestion) if they become cheaper as a result of reductions in protection levels.

In other applications of local content policy studied in this thesis, externalities and market failure are cited as explicit reasons for the use of local content policy. Local production is a specific non-economic objective in the Defence industry for reasons of defence capability and self-reliance. Thus local content policy forms part of government procurement policy in the Defence industry.

In the television industry, market failure as a result of the public good aspects of television is often used as a justification of local content policy. There are also externalities of cultural identity and national pride.
In each of these cases, the costs of achieving any non-economic objectives must be made explicit, and the effectiveness of the local content policy in achieving the objective examined.

If the aim of government policy is to ensure at least some minimum level of Australian content in the production of a good for any of the above reasons, then the application of a local content policy may, under certain circumstances, involve less economic cost than a tariff on that input. This is shown in chapter 2 to be because the local content scheme may increase the cost of the input to the final good producers by a smaller amount than a tariff would, for the same level of local input production.

In practice, however, local content schemes have the potential to offer high levels of assistance with associated high economic cost. They often involve administrative complexity and consequent wastage of resources. In addition, the open-ended nature of the level of protection offered by a local content scheme can increase the economic costs of the scheme over time. These economic costs have been relatively hidden in the past, and thus little recognised by the general public, as there has not been a great deal of attention given to the effects of the schemes.

While the local content schemes in Australia’s tobacco and automotive industries have now been abandoned, similar schemes continue to operate in many Asian and other developing countries. For example, there are local content schemes operating in the automotive industries in Brazil and Morocco, and Indonesia has a local content scheme in its transport equipment industry. Thus the lessons learned from the Australian experience can be applied to other countries.
The export facilitation scheme continued to operate in the automotive industry until the end of 2000, despite it having been ruled inconsistent with Australia’s WTO commitments. In the presence of a local content scheme, the export facilitation scheme may improve the efficiency of resource allocation within the industry, by encouraging a more outward orientation, balancing some of the inward-orientating aspects of the other types of protection (including the local content scheme) [IC, 1990]. With the removal of the local content scheme (which in the automotive industry occurred well before the end of the export facilitation scheme), the export facilitation scheme simply increased the level of assistance afforded the industry, encouraging further expansion of what may have been an already over-expanded industry. This increased the inefficiency of resource allocation between industries, and hence reduced national economic welfare.

An important conclusion that arises from the first two case studies, and is particularly applicable to the third, is a political economy one. Local content protection typically has involved a lack of transparency in protection, and has resulted in powerful and entrenched vested interests working against the interests of the consumer and society generally. These factors need to be borne in mind when examining the television industry, where they need to be weighed against the public-good characteristics of the television industry, where local content protection may offset market failures.

1.2 Organisation of the thesis

The aim of this thesis is to study the type of protection provided by local content schemes to industries in Australia. Do the schemes provide protection in an efficient manner compared with other types of protection? Why might they be preferred by the industries involved over other types of protection? Is the level of protection transparent,
or hidden and open-ended? ‘Local’ production appeals to our sense of nationalism. Has this, along with increased profitability as a result of the schemes, resulted in powerful and entrenched industry groups, able to influence industry policy? How have the operation and effects of the schemes differed in different types of industries?

With these questions in mind this thesis is structured as follows. Chapter 2 defines ‘local content’ and discusses types of incentives to encourage the use of locally produced inputs. The existing literature is also examined. It then examines the economic theory of local content schemes. A model is introduced, allowing efficiency and distributional effects of the schemes to be drawn out. Formulae are derived from the model to demonstrate how social costs of the schemes may be measured. Comparisons are made between the effects of local content schemes versus other forms of protection. Some political economy aspects are noted, although political economy questions are considered more in the case study chapters. Dynamic changes to the static model are then considered, to consider how the level of protection provided by a local content scheme may change over time.

Chapter 3 is the first case study: the Australian tobacco industry. This industry allows the simplest study of the operation of a local content scheme, with conditions most closely approximating assumptions made by the model in Chapter 2 (i.e. a single intermediate input, the local content requirement expressed in terms of volume of final input usage and so on). Even so, the local content scheme was not the only form of industry policy operating in the tobacco industry. Other forms of intervention, some made necessary by the existence of the local content scheme, interacted with the local content scheme increasing the difficulty of isolating the effects of the scheme itself.
Thus evidence is found to support the contention that local content schemes often result in levels of protection that are non-transparent and hard to measure.

Changes to the level of protection of the tobacco growing industry as a result of dynamic changes (for example in world prices) are noted as being consistent with those predicted by the theory in Chapter 2. Calculations are made using formulae derived in Chapter 2. These show consumers consistently paying higher prices for inputs than those predicted by the theory, suggesting the presence of other political economy considerations. These considerations are examined in the light of the persistently high levels of protection (much higher than for agriculture generally) of the tobacco growing industry.

Chapter 4 considers the Australian automotive industry, with an examination of how the export facilitation scheme in this industry interacts with the local content scheme. This provides an interesting extension to the theory in Chapter 2. Once again it is seen that the presence of other forms of industry intervention complicates the analysis of the effects of the local content scheme. Persistently high levels of protection in the automotive industry are noted, along with possible political economy explanations. The existence of externalities, and the subsequent effect on the analysis is considered. This aspect is considered briefly in Chapter 3 as well, but becomes a major consideration in Chapter 5.

Chapter 5 examines a service sector - the television industry in Australia - which has some public good characteristics. Unlike the first two industries studied, the local content scheme still operates in the television industry. Its role in providing protection in this industry is under question however, with rapid technology changes making the
application of the policy less effective and relevant. In addition, the proposed free trade agreement with the United States of America seeks to limit the use of local content policy with emerging television delivery technology. The role the local content scheme has played in protecting and entrenching powerful vested interests in this industry is also an important theme in this chapter.

After examining these three Australian industries, Chapter 6 has a more international flavour, examining briefly offsets and government procurement and then, in some more detail, rules of origin (ROO). Although local content schemes no longer exist in the tobacco and automotive industries, lessons learnt from the study of these industries, and the television industry, can be applied to these other areas. Particularly of interest are the high levels and lack of transparency of this type of protection, along with entrenched and vested interests.

Finally, Chapter 7 summarises the main conclusions from the case studies, draws out policy recommendations and implications for Australia, developing countries and the WTO, and suggests areas for future economic research in this field.
CHAPTER 2:  THE ECONOMICS OF LOCAL CONTENT

The theory that is applied to the case studies in the following chapters is developed in this chapter. The definition of local content is examined and a model is developed, from which formulae to calculate the economic impact of a local content scheme are derived. Comparative statics of the model are then examined, before drawing attention to key qualifications that have been examined in the literature on local content. The chapter concludes by summarising the theory of local content and its applicability to the case studies that follow.

2.1 Definition of local content

"Local" refers to the country that applies the local content policy. The three industries discussed below in chapters 3, 4 and 5 are subject to Australian content rules, so "local" refers to "Australian" in this thesis.

How is local content measured? Local content can be measured as either the percentage volume of input of the total volume that is "local", or the proportion of gross value added that is "local", measured at domestic prices [Grossman, 1981: p. 592]. Value based schemes are more likely to be used if the input and final goods are heterogeneous, for example in automotive industries (Chapter 4), whereas in the tobacco industry (Chapter 3) a volume based scheme is used [Vousden, 1990]. Rules of origin (ROO) often use a value added definition (this is the case for Australia’s ROO). In the broadcasting industry local content is generally measured as percentage of broadcast time, except in pay TV where a percentage of total expenditure measure is
used. The effects of these differing ways of measuring local content are discussed in Section 2.5.1.

The local content scheme (LCS) must define what can be included as "local", and then some effort must be made to calculate what percentage of the good (in either value or volume terms) is "not local".

The obvious solution may seem to be to simply define the local content of a good as the final value (or volume) of sales of the good, less any imported value (or volume). However, in practice, it has not always been the definition of choice for policy makers. In some instances this definition has been judged to work against the spirit of the policy.

An example arises from problems incurred under the federal government's former policy of Preference to Australian/New Zealand (ANZ) Made Goods. Prior to 31 October 1989, the preference given to Australian made goods for government procurement took the form of a notional adjustment to the tendered price, of 20 per cent (or more in some instances) of the Australian content of the good [IAC, 1988].

Initially ANZ content was worked out as the final value less the value of imported inputs. However it was found that this allowed importers of goods that were totally manufactured overseas, from non-local inputs, to nevertheless claim some ANZ content, as their profit margins and transport and handling costs were counted as ANZ content under this definition. This was seen at the time by policy makers to be against

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1 This margin of preference was also applied to New Zealand goods under the Australia New Zealand Closer Economic Relations Trade Agreement (CER), which entered into force on 1 January 1983 [GATT, 1994].
the spirit of the policy. Allowing profit to be included as local content becomes even more problematic in these days of increasing globalisation – who actually owns the company?

The definition was then changed to exclude profit margins and transport and handling costs. This new definition led to the curious result that, for example, potatoes grown in Australia, whose value consisted largely of handling and transport costs, and profit margins, were classed as having virtually no ANZ content, much to the annoyance of Australian potato growers! The definition of local content was essentially geared towards manufactured goods. The preference margin was abolished on 31 October 1989 (see Chapter 6).

Even these simple examples show that having to rely on often arbitrary definitions of what is included as local content can lead to administrative complexities and also compliance costs for producers, as they have to classify their level of local content. It can result in inefficiencies, distortions and rent seeking behaviour as producers try to ensure their particular activity is classed as “local”. Defining what constitutes “local” content in the broadcasting industry can be very problematic. An example of this is quoted in Chapter 5 with the American producers of a production trying to have a whale classed as an Australian actor!

Costs of compliance (i.e. of proving origin) can be a significant factor under some types of ROO applying to some free trade agreements (FTAs). ROO in FTAs can be complex and arbitrary. In chapter 6 it is noted that some producers are willing to pay significant duties to avoid the administrative costs of having to prove origin

2In the case of potatoes this anomaly did not have any practical ramifications as tenders received by the Australian government for purchase of potatoes were invariably for Australian potatoes, therefore the application of the ANZ preference policy was never necessary.
[Krueger, 1992, p.6]. The World Trade Organization (WTO) has attempted to harmonise ROOs applicable to non-preferential trade (for example those used in dumping disputes) to make them more transparent and to reduce uncertainties for traders. These principles are not binding on preferential trade, i.e. free trade agreements, customs unions or preferential agreements with less developed countries. However there is a “Common Declaration” at the end of the Agreement on Rules of Origin stating that these principles should also apply to preferential trade agreements [WTO, 2001].

2.2 Incentives to achieve the local content requirement

Local content policy provides protection for domestic intermediate input-producing industries by encouraging the producers of downstream products to purchase their inputs from local suppliers. There are a number of ways of providing incentives to ensure that the local content requirement (LCR - expressed in either volume or value terms) is met. These include the following:

(i) Allow producers who achieve the LCR to import the remaining proportion of inputs at a concessional rate of duty (often zero, or duty free, as used in the tobacco and automotive industries in Australia). Under preferential trade agreements this type of incentive allows producers who meet the local content requirement (i.e. the rule of origin – that a specified proportion of the good (however defined) originated within the country or the free trade area) are allowed access to other member’s markets at either duty free or concessional duty rates.

(ii) Make tariff protection of the final product conditional on the achievement of a proportion of local content. In this case producers would adhere to the local
content requirement if the benefits of the protection they receive outweigh the higher costs of domestic inputs (ie, if their effective rate of protection was positive) [Corden, 1971].

(iii) Assess tenders for the provision of products to a government at a reduced “Tender Adjusted Price”, the reduction being proportional to the amount of local content achieved. At the Federal level this policy was known as Preference for Australian/New Zealand Made Goods. Government preference also can be applied at the state level, preference being given to products originating from the state calling for tenders. Formal application of preference policy at the state level was ended by the National Preference Agreement, which came into force on 1 July 1986 [IAC, 1987B]. However, more recently, preference has been given to suppliers local to a particular state. Without any guidelines this preference has the potential to be extremely distorting. The extent of distortion is usually hidden and difficult to measure. In addition there is an increasing tendency for state governments to offer inducements to companies to remain in their state. For example, it is claimed that the Victorian government offered Holden inducements to the value of $63 million in 2000 to locate their V6-engine plant in Victoria [Ewin Hannan writing in The Sunday Age, 17 December 2000].

(iv) Require that the LCR must be met, for example by making the granting of licences for production of the final product contingent on meeting the LCR [Corden, 1971]. The Broadcasting Industry is an example of this approach. A further example is to be found in government procurement policy. Tenderers for high value products (especially in high technology industries) are often
required to give a commitment to achieve a set percentage of local content before being considered as potential suppliers. The local content must consist of activities of commercial and technological significance to be directed to Australian industry [Joint Committee of Public Accounts, 1987]. This commitment is then made part of any ensuing contract. This is called “offsets” and is discussed in Chapter 6.

(v) Make other assistance to the industry dependent on the meeting of the LCR [Corden, 1971, IAC, 1984]. This need not be stated as government policy. This incentive can operate alongside other incentives. It has been found in Australia that often the LCR is either over-fulfilled, or met when perhaps it could be considered less costly to the producer to not meet the requirement and pay the penalty associated with the particular scheme. An example is the tobacco industry. Tobacco manufacturers feared more stringent measures might be taken on excise taxation and advertising if they did not comply with the Government’s stated intention with regard to leaf local content [IAC, 1984, p.14].

(vi) Exempt a product from wholesale sales tax (WST) if a specified percentage of local content is achieved. This incentive operated in the past in, for example, the fruit juice industry. Prior to the introduction of a goods and services tax (GST) in Australia in 2000, WST was levied on the wholesale price of a product unless it was exempted. Exemption from the WST was granted in the fruit juice industry if the fruit juice product contained at least 25 per cent by volume of juices of Australian fruit [IAC, 1982B, p.29]. Otherwise these products would have been subject to a WST of 17.5 per cent of the wholesale price.
2.3 The basic model in a static economy

2.3.1 The market for the intermediate input

The simplest way to model a local content scheme is to use partial equilibrium analysis to show the effects of a volume-based scheme on the price of the intermediate good (i.e. the good protected by the LCS), the quantity of the intermediate good produced locally, the quantity of the final good produced, and consumer and intermediate good producer surplus. (The 'consumer' of the intermediate good is the final good producer.) The incentive used in this model is of type (i) in Section 2.2 above. Once k per cent of inputs by volume has been purchased locally, the remaining (1 - k) per cent of inputs may be imported at concessional rates of duty.

For simplicity, as in Grossman (1981), assume there is only one imported input and that domestic and imported inputs are perfect technical substitutes. Assume further that there is perfect competition in the domestic markets for both the inputs and the final good, and that those suppliers are small relative to the international market, and hence are price takers. Additionally, assume that the concessional rate of duty applying once the LCR has been met is zero.

In the following model\(^3\), the final good is assumed to be produced using labour (which is homogenous) and the intermediate good. As in Vousden (1987) and Grossman (1981) the model assumes a fixed input - output ratio, i.e. one unit of the intermediate good is required for every unit of the final good produced. Thus final good output

\[
X = Q + Q^* 
\]

(1)

\(^3\) The following model is similar to one derived in Vousden (1987).
where Q is the quantity of the domestically produced intermediate input and Q* is the quantity of the imported intermediate input.

Final good producers cannot affect the wage (w) at which they purchase labour, or the price (P) of the domestic input. Final good industry production is thus a function f of L, Q and Q*:

Industry production function = f(L, Q, Q*)$. (L is the quantity of labour used).

The small country assumption means that the price of the final good ($\bar{P}$) and the imported intermediate input (P*) are determined by world markets.

Assume for the moment that final good producers choose to meet the local content requirement. Thus

$$Q = k(Q + Q^*) = kX \quad (0 \leq k \leq 1) \quad (2)$$

where k is the proportional local content requirement.

As the LCR is being met, final good producers purchase imports of Q* duty free. Their profit maximising equation will be

$$\text{Max}_{x,Q,Q^*} \bar{P}X - g(X) - PQ - P^*Q^* \quad (3)$$

subject to (1) and (2) (where g(X) is the cost of labour to produce X, wL).

Substituting (1) and (2) into (3):

$$\text{Max}_{x} \bar{P}X - g(X) - P^*X \quad (4)$$

where $P^*$ is the average cost of the intermediate input if the LCR is achieved.

---

4 As in Grossman (1981), this production function is assumed to be continuous, twice differentiable and strictly concave.
This average price is

\[ P_a = kP + (1-k)P^* \]  

(5)

where \( P \) is the domestic price of the input, and \( P^* \) is the duty free price of the imported input [Vousden, 1990].

Differentiating equation (4) and setting it equal to zero gives the condition for output of the final good that will be satisfied by profit maximising producers, i.e.

\[ \bar{P} - g'(X) - P_a = 0 \]  

(6)

Thus the derived demand curve for the component \( (X = Q + Q^*) \) is a function of the average price \( P_a \) \( (X = f(P_a)) \). Applying the LCR gives the demand curve for the domestically produced intermediate input.

\[ Q = kf(P_a). \]

From (2) and (5) this gives the derived demand curve for the domestic intermediate input:

\[ P(Q) = \frac{f^{-1}\left(\frac{Q}{k}\right) - (1-k)P^*}{k} \]  

(7)

In the above calculations, the assumption was made that final good producers choose to meet the local content requirement. Theoretically, this will be so if the penalty for not meeting the LCR (i.e. having to pay duty on the imported components) outweighs the extra cost of the locally produced component. Final good producers make this choice by comparing the average price \( (P_a) \) when the LCR is met (equation (5) above) to the tariff-inclusive price of the imported input (i.e. the price producers would have to pay if the LCR was not met). The maximum price the producers of the
downstream product will be prepared to pay for the domestic input is determined by equating these prices, i.e.

\[ P^*(1+t) = kP + (1-k)P^*. \]

Solving for \( P \) gives the maximum domestic price that producers will pay (and meet the LCR):

\[ P_{\text{max}} = P^*(1+t/k). \]

In practice, particularly in the tobacco and automotive industries (the case studies in Chapters 3 and 4 respectively), final good producers have adhered to or over fulfilled local content requirements in the past. This may be in part for fear of reduced assistance to the overall industry if stated government objectives with regard to local participation are not achieved (see Vousden (1987) and also Section 2.2(v) above).

The market for the intermediate input can be illustrated as follows in figure 2.1.
Figure 2.1: The intermediate input market under a local content scheme
SS = the domestic supply curve (i.e. the marginal cost (MC) curve) for the intermediate input. In a competitive components sector, output Q will be determined by the point where

\[ P(Q) = MC, \]

\[ P(Q) \text{ is given by equation (7):} \]

\[ P(Q) = \frac{f^{-1}(\frac{Q}{k}) - (1-k)P^*}{k} \]

It is illustrated by the segment CE in Figure 2.1.

\( \text{DD}_1 \) = the demand curve for the intermediate input. It is derived from the demand for the final good, and reflects the degree of substitution possible between factors of production of the final good [IAC, 1984].

\( \text{DD}'_1 \)' is a fixed proportion (k - the local content proportion) of \( \text{DD}_1 \).

Both \( \text{DD}_1 \) and \( \text{DD}'_1 \)' are functions of the average price \( P_a \) of the intermediate good.

The net demand curve for the locally produced input (based on the average price under the local content scheme) is the thick broken line \( \text{AB, CE, EG}_1 \). This is determined as follows:

*The segment AB:

If the LCR is not met, final good producers have to pay \( P^*(1+t) \), the tariff inclusive price, for their imported input. At this price, total input demand is \( 0Q_4 \). If the domestic price is greater than \( P^*(1+t/k) \) the entire quantity \( 0Q_4 \) will be imported.
and net domestic demand is zero [Grossman, 1981]. If the domestic input supply curve intersects the segment AB, some of the total demand at the tariff inclusive price will be met by local production (assuming a marginal preference for domestically produced inputs). Local input suppliers will receive the domestic price 

\[ P = P^*(1+t). \]

Along the line AB the LCR is under fulfilled and final good producers will have to pay import duties on the remaining proportion of inputs\(^5\). The segment AB will be part of the net demand curve for the locally produced input if the domestic price is equal to the tariff inclusive price, assuming that final good producers have a marginal preference for the local input.

*The segment CE:*

At point B the local requirement is exactly met, as the line AB is \(k\) per cent of the line AF. If final good producers are meeting the LCR, they will be prepared to pay a maximum domestic price of \(P^*(1+t/k)\) as determined earlier. If the domestic price is equal to this maximum, the quantity \(0Q_0\) will be produced locally at the price \(P^*(1+t/k)\) and \(Q_0Q_4\) quantity imported at price \(P^*\), yielding an average price of \(P^*(1+t)\). Along the segment CE the content requirement is exactly met. A movement along CE represents a decrease in the domestic price from \(P^*(1+t/k)\). As the LCR continues to be met, this means there is a decrease in the average price also, as

\(^5\) As the local content requirement was fulfilled in the tobacco and automotive industries, this segment can be considered a special case of the more general case illustrated by the segment CE.
represented by the line BE. This decrease in the average price paid results in an expansion of total demand along the line FG.  

For example, assume the supply curve for the domestic input is the line SS as shown in the above diagram. The domestic price is \( P_1 \) whilst the average price of all inputs, domestic plus imported, is \( P_\alpha \) (from the \( DD_1 \) curve). At this average price the total quantity of inputs demanded is \( 0Q_2 \), of which \( 0Q_1 \) is produced locally and \( Q_1Q_2 \) is imported duty free. The LCR is exactly met as \( 0Q_1/0Q_2 = k \).

*The segment EGD₁:*

Along EGD₁ the LCR may be exceeded. Along EG the domestic price \( P = P^* \). Final good producers are indifferent between domestically produced and imported inputs to make up the rest of their total demand once the LCR has been met. Again assuming a marginal preference for the local input, the LCR may be over fulfilled. After G the domestic price is less than \( P^* \) and so net demand for the local inputs is the same as total demand.

### 2.3.2 Local content scheme versus a tariff

The local content scheme can then be compared to a tariff that gives domestic component producers the same level of protection as the contents scheme (ie a tariff of size \( (P_1-P^*)/P^* \)). Domestic production is maintained at \( Q_1 \). This imposes higher costs on users, as the domestic price they have to pay under the tariff, \( P_1 \), is greater

---

\(^6\) Grossman (1981) points out that if the domestic supply curve for the intermediate input is such that it intersects both the segment AB and the segment CE, two possible equilibria exist. However the equilibrium point on the segment CE will be the most profitable for both the intermediate good producer and the final good producer. The intermediate good producer has a higher output and receives a higher price than under the equilibria on the AB line, and the final good producer pays a lower price on average by choosing to meet the LCR along the line CE.
than what they would pay under the local content scheme, P_a. This means total usage under a tariff would be less than with a local content scheme (Q3 instead of Q2).

The welfare costs of achieving the same level of protection for the domestic input industry using the two different forms of protection can then be compared. Under the local content scheme there is a deadweight loss on the production side equal to the triangle NLM, arising from the use of domestic resources whose opportunity cost is greater than the foreign exchange saved by not importing the quantity LM. Use of a tariff gives rise to the same area of deadweight loss.

However, on the consumption side the deadweight loss under the tariff is greater than under the LCS (KJG as opposed to HIG). This arises because consumers (the producers of the downstream product) have to pay P_1 for all their inputs instead of P_a under the LCS. [IAC, 1984].

If the object of protection is to achieve a certain proportion of domestically produced inputs in the production of the final good, then two-part pricing under the local content scheme results in less economic cost than a simple tariff. Vousden (1987), McCulloch and Johnson (1973) Parish (undated) have pointed out this result. However the tariff in the above example also raises extra revenue for the government (the area NKJM). Assuming the government needs this revenue, any costs of raising it elsewhere may offset partially the additional costs of the tariff [McCulloch and Johnson, (1973), Parish (undated)].
Using a similar method to that used in Anderson (1983), the changes in consumer welfare ($\Delta W_c$) net social welfare ($\Delta W_s$) and government revenue ($\Delta G$) resulting from using a local content scheme instead of a simple tariff (set to maintain the same level of domestic production) can be summarised as follows:

**Equation 1:**

\[
\Delta W_c = areaP_1P_sHK
\]

\[
= Q_3(P_1 - P_s) + 1/2(Q_2 - Q_3)(P_1 - P_s)
\]

multiply both sides by $\frac{P_1}{P_1} \frac{Q_3}{Q_3}$

\[
= Q_3P_1z + 1/2 \left( \frac{Q_2 - Q_3}{Q_3} \right) zP_1Q_3
\]

\[
= Q_3P_1z \left[ 1 + 1/2 \left( \frac{Q_2 - Q_3}{Q_3} \right) \right]
\]

multiply both sides by $\left( \frac{P_1 - P_s}{P_1} \right) \left( \frac{P_1}{P_1 - P_s} \right)$

\[
= Q_3P_1z \left( 1 + \frac{n_2}{2} \right)
\]

where $z = \frac{P_1 - P_s}{P_1}$ is the proportional drop in price from the tariff inclusive price to the average price under the local content scheme, and $n$ is the negative of the average price elasticity of demand over the range $K$ to $H$ in Figure 2.1.
Equation 2:

$$\Delta W_c = \text{area}_{KJIH}$$

$$= (Q_2 - Q_3)(P_1 - P^*) - 1/2(Q_2 - Q_3)(P_1 - P_s)$$

multiply both sides by $$\frac{P_1}{P_1} \frac{Q_3}{P_3}$$

$$= Q_3 P_1 \left(\frac{Q_2 - Q_3}{Q_3}\right) \left(\frac{P_1 - P^*}{P_1}\right) - 1/2 \left(\frac{Q_2 - Q_3}{Q_3}\right) z P_1 Q_3$$

multiply both sides by $$\left(\frac{P_1 - P_s}{P_1}\right) \left(\frac{P_1}{P_1 - P_s}\right)$$

$$= P_1 Q_3 z n q - 1/2 P_1 Q_3 z n z$$

$$= P_1 Q_3 z n \left(q - \frac{z}{2}\right)$$

where $$q = \frac{P_1 - P^*}{P_1}$$ is the proportion al drop in consumer price (from the tariff inclusive price) to bring it down to the border price $$P^*$$, and $$n$$ and $$z$$ are as before.

Equation 3:

$$\Delta G = \text{area}_{NMJK}$$

$$= (Q_3 - Q_1)(P_1 - P^*)$$

multiply both sides by $$\left(\frac{P_1}{P_1}\right) \left(\frac{Q_3}{P_3}\right)$$

$$= P_1 Q_3 m q$$

where $$m$$ is the share of consumption that is imported, and $$q$$ is as before.

Using a local content scheme instead of a simple tariff that gives the same level of domestic production would clearly increase consumer welfare and net social welfare. As $$n$$ and $$z$$ are both positive then equation 1 ($$\Delta W_c$$) must be positive, i.e. consumer welfare will be higher under the local content scheme.
For equation 2, since \( q \) is greater in size than \( z \), the change in net social welfare (\( \Delta W_s \)) must also be positive. Finally, the tariff raises government revenue, while the local content scheme does not. Equation 3 gives us the level of government revenue raised by the tariff.

The increases in consumer and net social welfare depend on the variables \( n \), \( z \) and \( q \). These increases in welfare will be larger for greater values of \( z \) (the decrease in the consumer price from the tariff inclusive price to the average price under the local content scheme) and/or greater values of \( n \) (i.e. the more elastic the demand for the input is).

### 2.3.3 A tariff/production subsidy combination

An alternative to a simple tariff could be a tariff/production subsidy combination. Anderson, Britten-Jones and Nettle (1987) show that a tariff and subsidy combination, where the funds from a tariff imposed on imports of the intermediate input are used to further subsidise intermediate good producers, involves lower economic cost than a simple tariff, if the objective is to achieve a certain percentage of domestic production. They also show that the smaller are domestic price elasticities of demand and supply for the commodity, the larger is the tariff-funded subsidy required [Anderson, Britten-Jones and Nettle, 1987].

A tariff of size \((P_a - P^*)/P^*\) would result in input users facing the same price \((P_a)\) as they would under the local content scheme. Thus the deadweight loss on the consumption side would be HIG. The revenue received could be used to further subsidise the domestic input industry (the area RHIM is equal to the area \( P_1NRP_a \)). Thus the tariff/subsidy combination could be chosen so that the level of protection of
the domestic industry is the same as under the local content scheme. The subsidy would be at the rate of \((P_1-P_\alpha)/P_\alpha\). Domestic input production would be \(Q_1\) and the production side deadweight loss is the area NLM.

Using this combination of a tariff on the consumer and a subsidy to the input industry results in the same level and costs of protection as the local content scheme [IAC, 1984]. In practice, however, it would be difficult to achieve this equivalence as policy makers would need complex information about demand and supply conditions [Parish, undated]. It will also be seen that the different policies will no longer yield the same results once dynamic changes are considered (see Section 2.4.1 below).

2.3.4 LCS versus a production subsidy

If the objective of protection is simply to increase domestic production, then a simple production subsidy (of size \((P_1-P^*)/P^*\) in the above example) is to be preferred. If a production subsidy is used, there is no deadweight loss on the consumption side; consumers continue to consume at the free trade level. Producer surplus is the same as under the LCS or tariff, and the deadweight loss on the production side is still NLM.

However, this assumes costless raising of taxation revenue. The advantages of a straight production subsidy may not be as great once the costs of raising taxation revenue to pay the subsidy are taken into account.

2.3.5 Summary

As has been shown, a tariff, LCS (or tariff/production subsidy in this static picture) or a production subsidy can all achieve the same level of protection for input
producers, but vary in terms of their distributional effects and the costs they impose on society.

The production subsidy is the least costly to society, assuming the costs of raising taxation revenue to pay it are not great. A production subsidy does not impose any extra cost on the consumer (in this case, the input user). The next best alternative is a tariff funded production subsidy or a local content scheme, both of which impose less cost on the consumer than a straight tariff. 7

All of these alternatives reduce social welfare as compared with free trade. The costs of this reduction in social welfare must therefore be compared with any perceived benefits of the non-economic objective of increasing local production in the input industry.

Even if the level of protection afforded intermediate input producers is the same under the different policies in this static setting, it does not follow that these producers would be indifferent to which type of protection they receive. The production subsidy is the most transparent form of policy, thus the most likely to be vulnerable to consumer and taxpayer pressure to remove it. The LCS is the least transparent, and thus the most likely to remain politically palatable for longer (had it not been made illegal under new WTO rules).

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7 In practice, the costs of the scheme’s administrative complexities must also be taken into account. If these are significant, a local content scheme may be inferior to a tariff-funded production subsidy. In addition, the inferiority of the tariff may be less clear if there are significant costs of raising tax revenue in other ways (assuming the government still needs the revenue).
2.4 Comparative statics

The local content scheme may result in higher economic costs than in the static economy considered above as and when demand and supply conditions change. Three different changes to conditions are considered below, all of which increase the assistance afforded to local production of the intermediate input. (Lower economic costs of the LCS would apply with the opposite changes in conditions.)

2.4.1 An increase in the cost of domestic production

In figure 2.2 below, assume that the LCR is exactly being met, and the domestic price is $P_1$ as before. Now consider an increase in the cost of domestic production, ie SS shifts up vertically to intersect the net demand curve at a point somewhere between N and C, for example at point T\(^8\). The new domestic supply curve is SS'.

---

\(^8\) If the cost of domestic production increases further, the new domestic supply curve may intersect both segments CE and AB, or if costs rise high enough the supply curve may intersect the segment AB only. The consequences of both these scenarios are addressed in Section 2.3.1 above.
Figure 2.2: An increase in the cost of domestic production in the intermediate input market
The average price to input users would then increase to $P_a'$, resulting in a reduction in total quantity demanded, to $Q_2'$. This reduction in demand will be shared by both locally produced and imported inputs; consumption of both will fall. Consumption of the locally produced input will decrease from $Q_1$ to $Q_1'$, and consumption of imports will decrease from $(Q_2- Q_1)$ to $(Q_2'- Q_1')$. Local input producers will receive the higher price of $P_1'$ instead of $P_1$.

The deadweight losses on both the consumption and production side will be larger. On the production side the deadweight loss is $TVU$, up from $NLM$, and on the consumption side the deadweight loss is $WXG$, up from $HIG$.

If domestic production costs fall, the changes will be the opposite to those discussed above; that is, the economic costs of the LCS will be reduced. However, in the industries protected by these schemes, an increase in domestic production costs has been more likely than a decrease. These industries have been protected from international competition; in general this has resulted in their production practices falling progressively further behind world best practice, and production costs becoming relatively higher.

If a tariff/subsidy combination had been used instead of the LCS, an increase in the domestic price of the input would result in lower domestic production with a correspondingly higher level of imports. This is because the total quantity demanded is unchanged; the tariff inclusive price of the intermediate is unchanged. Thus the local content scheme is more “equivalent” to a quota/subsidy combination than to a tariff/subsidy combination. As production costs increase in the domestic industry, the
level of assistance to the domestic industry also increases under the local content scheme. Thus in a dynamic economy, a combination of a tariff on imports and a subsidy to domestic production of the input may be preferable. However, for a true comparison the economic costs of administering either scheme would need to be compared. To fine-tune the tariff/subsidy combination, the government would need to know the elasticities of supply and demand of the input to be protected. Alternatively, the government could pay the tariff revenue collected retrospectively as a subsidy to domestic input producers. The administrative costs of either of these measures could be compared with the administrative costs that are associated with local content schemes, discussed in Sections 2.1 and 2.3.6 above.

2.4.2 A decrease in the world price of the input

The equivalence of a LCS to a quota/subsidy combination does not apply to all dynamic changes. Consider a decrease in $P^*$, the world price of the intermediate input. This is a realistic scenario as it has been occurring in the tobacco industry, and a similar phenomenon has been occurring in the automotive industry.

Under the LCS the price received by the intermediate good producer actually goes up, and domestic production expands. The average price paid by the input using industry decreases, and total use of the input (domestically produced and imported) expands.

The case of a decrease in $P^*$ is illustrated in Figure 2.3.
Figure 2.3: A decrease in the world price of the input
A decrease in $P^*_{x}$ to $P^*_{x}^{'}$ will decrease the maximum price final good producers will pay for the domestic input, to $P_{\text{max}}^{'}$. The average price for the intermediate input will also decrease, to $P_{a}^{'}$. The new net demand curve for the locally produced input is the thicker broken line $FJ, KR, RVD_1$.

As a result of the decrease in the average price of the intermediate input, total quantity demanded expands from $Q_2$ to $Q_2^{'}$.

The price received by domestic producers of the input increases from $P_1$ to $P_1^{'}$, and domestic output of the input increases from $Q_1$ to $Q_1^{'}$.9

There is an increase in the economic cost on the production side; the area WXY is larger than the area NLM. On the consumption side the change is uncertain.

2.4.3 A change in total demand for the intermediate input

An increase in the total demand for the input ($DD_1$ shifts to the right) will also result in increased assistance to the domestic industry [IAC, 1984]. The opposite is true if there is a decrease in the total demand for the input ($DD_1$ shifts to the left.) This is more likely to be the case in, for example, the tobacco leaf industry, where decreasing demand for cigarettes will also result in a decrease in the derived demand for the input, tobacco leaf. (Section 3.2.2 below notes that consumption of cigarettes in Australia has been declining.) Figure 2.4 illustrates the case of a decline in total demand for the intermediate input.

9 Note that a sufficiently large decrease in the world price could cause the supply curve to cross $FJ$ and $KE$, resulting in two possible equilibria, or just $FJ$. See Section 2.3.1.
Figure 2.4: A decline in total demand for the intermediate input
As total demand for the intermediate input falls, the average price falls to $P_a'$. Total quantity demanded falls from $Q_2$ to $Q_2'$, and the quantity produced domestically decreases from $Q_1$ to $Q_1'$. The intermediate input producers now receive a price of $P_1'$, down from $P_1$. The level of protection for the intermediate input producers has decreased, along with the dead weight losses to society (the blue shaded areas are smaller than the original areas of HIG and NLM).

2.4.4 A decrease in the local content requirement

In Chapter 4, there is discussion of an export facilitation scheme in the automotive industry, which effectively allows a decrease in $k$ in the presence of a LCS. The effects of decreasing $k$ are shown in Figure 2.5.
Figure 2.5: A decrease in the percentage local content requirement (k) in the intermediate input market
The decrease in $k$ is shown by a movement to the left of $D'D'$, to $D''D_1"$. It will increase the maximum price final good producers will pay for the domestic input, to meet the LCR. The average price to the final good producers decreases, resulting in an increase in the total quantity demanded of the input, to $Q_2'$. There is a corresponding decrease in the deadweight loss to society on the consumption side, from HIG to YZG.

The price domestic input producers receive falls to $P_1'$, so domestic production decreases to $Q_1'$; and the level of imports is higher. The economic cost to society of the scheme is also smaller on the production side. The decrease is from NLM to VLW. Thus a decrease in $k$ results in clear benefits.

2.4.5 A decrease in the tariff rate on the intermediate input

A decrease in the tariff rate on the intermediate input will decrease $P_{\text{max}}$, the maximum price final good producers will pay for the input while meeting the local content requirement. This results in the segment CE becoming shorter (to RE on Figure 2.6) and the segment AB becoming longer (to TU on Figure 2.6). With a small decrease in the tariff rate and the supply curve SS, as illustrated, there is no change in the quantities of domestic and imported intermediate input. As SS crosses the segment CE (now RE), the local content requirement is exactly met and the remaining intermediate inputs are imported duty free. The change in the tariff rate on the intermediate input does not affect the average price paid by the final good producer.

A larger decrease in the tariff rate may lead to the supply curve crossing both the new segments RE and TU, with a possible double equilibria as discussed in Section 2.3.1. An even larger decrease in the tariff rate may result in the supply curve
crossing TU only. In this case the LCR is under fulfilled and final good producers will opt to pay (the low) import duties on their remaining imported inputs.

A decrease in the tariff rate illustrated in Figure 2.6.
Figure 2.6: A decrease in the tariff rate on the intermediate input
2.5 Qualifications to the basic model

The literature on local content schemes has examined the issue of how local content can be measured (for example Grossman, 1981 and Vousden, 1990A), and also developed models to examine the economic effects of local content schemes (for example IAC, 1984, Grossman 1981, Vousden, 1987 and 1990A). A number of contributions to the literature have also examined qualifications to the basic model. This section examines this literature and the main qualifications that need to be kept in mind.

2.5.1 Measurement

For simplicity, most models have specified the measurement of local content in volume terms, as above. In industries where there may be many intermediate goods, local content is more likely to be defined in terms of a percentage of the total value of the final good (as also with Rules of Origin). Grossman (1981) examines whether defining local content in value terms, rather than volume, affects the predicted outcomes of the schemes.

Grossman's general result is that using a value definition of local content rather than a volume definition will not affect the basic conclusion that intermediate input production will be increased under the LCS. In some cases, however, Grossman finds that it is possible for final good producers to meet their value of local content obligations solely with primary inputs. In these cases, the LCS does not protect the
intermediate good. The LCS will also influence the choice of production technique for the final good by altering the price of the intermediate input [Grossman, 1981].

2.5.2 Technical efficiency

In section 2.3 above, it was assumed that domestic and imported inputs are perfect technical substitutes, following Grossman (1981). Mussa (1984) relaxes the assumption of perfect technical substitutability, instead using a model that allows “smooth substitution between domestic and imported inputs” [Mussa, 1984]. Mussa then examines the effect of value based local content schemes on technical efficiency, and concludes that a LCS will distort gains in technical efficiency towards those saving imported inputs [Mussa, 1984].

2.5.3 Monopoly in the intermediate goods sector

A number of studies have examined what the effects of monopoly in the intermediate goods sector may be (Grossman, 1981; Mussa, 1984; Vousden, 1987 and 1990B). This is relevant because often there are only a small number of input producers in countries that use local content plans [Grossman, 1981, p.598]. A paper by Beghin and Lovell examines the issue of the Australian Tobacco Board acting as a monopoly in the tobacco growing industry [Beghin and Lovell, 1993].

The consensus of opinion is that, in the presence of a monopoly in the market for the domestic intermediate input, the LCS will have a similar effect on output in that market as an import quota on the intermediate input would under conditions of monopoly. Having removed competition from imports up to a point, the monopolist’s profit maximising output may be below the free trade level of output of domestic intermediate goods. In this case the LCS is anti-protective. Vousden’s 1990 paper
shows that this will be the case if the intermediate goods sector acts collusively to
determine the LCR, to maximise political support of the policy maker
[Vousden, 1990B]. If the LCR is exogenously given, the outcome will be the result of
two competing forces: the increase in output resulting from higher prices received
under the LCS, versus the decrease in output resulting from the application of
monopoly power now that competition from imports has been lessened [Vousden,
1990B].

It is interesting to note, however, that Vousden's result under the
endogenously determined LCR scheme depends on pitting final good producers' interests against the intermediate good producer's interests. Political support is maximised by setting a LCR which enhances the profitability of the larger group, i.e. the competitive final good producers. The LCR thus set would generate output below the free trade level of domestic intermediate good production. Final good producers gain from this because they are able to purchase their inputs at a lower price.

It has been found, however, that in practice these two groups are likely to stick together whilst lobbying the government, as discussed in Section 2.2, point (v) above. By sticking together, the industry as a whole may avoid other government actions such as further measures to reduce consumption in the tobacco industry, or reductions in final good protection in the automotive industry. These measures may be more costly to the industry sectors involved than the benefits foregone by not pursuing the most profitable course of action when the local content scheme is looked at in isolation [IAC, 1984:pp 12&14].
2.5.4 More than one intermediate input

The assumption of a single intermediate input is not a realistic one for industries such as the automotive industry where there are many intermediate goods used in the production of a car. Grossman (1981) examines whether the relaxation of the assumption of only one intermediate input affects the outcomes of the models. He concludes that multiple intermediate goods can be evaluated as a composite good [Grossman, 1981, p.598]. The ‘composite’ good will consist of local inputs which each have the same price disadvantage as compared with the imported inputs. In this way final good producers will minimise the costs of meeting the LCR [IAC, 1984].

2.5.5 Model specification

Specification of models has also varied. While most take a profit maximising approach, Färe and Logan (1989) take the dual approach and use a cost minimisation specification. Corden (1971), McCulloch and Johnson (1973) and Parish (undated) use a model in which the LCR is shown as changing the supply curve of components facing car producers - this supply curve traces out the average cost of components to car producers [Corden, 1971, p.47]. The IAC approach [IAC, 1984] follows Grossman (1981) and traces out the net demand curve for the locally produced input, based on the average price under the LCS. This is the approach followed in Section 2.3 above, using an incentive of type (i) of Section 2.2 (the concessional rate of duty). This approach allows us to focus on the costs and benefits arising from the two-part pricing of the local content scheme.
2.5.6 Possible advantages of local content schemes

Local content schemes can be the best way of achieving some non-economic objectives, in certain restricted circumstances. Vousden (1987), McCulloch and Johnson (1973) Parish (undated) all come to this conclusion. As local content schemes involve two-part pricing, consumers face a lower price than they would if a tariff, for example, was imposed to achieve the same level of domestic production, resulting in less economic cost. (The consumption dead weight loss is lower than under a tariff of this level.) If the non-economic objective of the policy is simply a given level of production, a production subsidy is the most direct way of achieving this. It involves the least economic cost, as there are no by-product distortions. A production subsidy does not increase the cost of the intermediate good to the consumers (the final good producers).

This result may be modified if there are costs of raising revenue to pay the production subsidy. Similarly, the superiority of the local content scheme over the tariff may be lessened if the government has to raise the tariff revenue foregone elsewhere in a distorting fashion. In addition, the local content scheme involves extra economic costs once dynamic changes to conditions are taken in to account.

Finally, if the reasons for protecting the local input industry by using a local content scheme rest on infant industry type arguments, Mussa’s conclusion that local content schemes bias against gains in technical efficiency in the local input must be taken into account. If the local industry is to mature and become internationally competitive, it needs to attain internationally competitive standards of technical efficiency [Mussa, 1984, p.10]. The local content scheme may work against this.
This appears to be the case in the tobacco and automotive industries, where the local content schemes, along with other forms of protection allowed the industries to fall further and further behind world’s best practice, leaving them with large adjustment costs once the protective barriers started to be removed.

2.5.7 Lack of transparency

Färe and Logan (1989) observe that outcomes of the scheme tend to depend on model specification. This points to the difficulty, in practice, of predicting outcomes from local content schemes [Grossman, 1981, Parish, (undated)]. Their effects can be quite hidden in comparison with other types of protection (for example straight production subsidies). This lack of transparency means public scrutiny of the assistance given to industry is difficult. This can lead to much higher levels of protection than an informed public may wish their democratically elected government to bestow. Alf Rattigan (a former chairman of the Tariff Board and then the Industries Assistance Commission) claimed that transparency in policy, and information about its effects, is vital to a better use of the country’s resources [Rattigan, 1986:p.275].

2.6 Discussion and conclusions

This chapter has examined aspects relating to the definition of local content, and different types of incentives for its achievement. These aspects of local content policy have been examined before in the literature, and existing literature in this field has been analysed, including a discussion of its relevance to this thesis. This chapter goes on to expand on considerations relating to the definition of local content, and contributes a more thorough list of different types of incentives to achieve the local content requirement than had existed previously in the literature.
The economics of local content has been analysed in this chapter using a model similar to that developed in the existing literature. The model is then extended by looking at various dynamic changes and the impact they may have on the economic effects of the local content requirement. In addition, formulae are derived from the basic model that can then be used to assess the economic cost to society of the schemes in terms of production inefficiency and extra costs to the consumer (the final good producer). Effects on government revenue can also be assessed using these formulae. This approach has not previously been used in the literature on local content schemes.

Administrative complexities have been noted, pointing the way towards the practical application of these types of policies in Australian industries. The next three chapters of this thesis examine three industries in Australia that have had local content policy applied to them. Chapter 3 looks at the first of these industries, the tobacco industry. The theory is extended in chapters 4 and 5, which examine the automotive and broadcasting industries. The theory is then applied in related settings in chapter 6.
CHAPTER 3: FIRST CASE STUDY: THE TOBACCO INDUSTRY

3.1 Introduction

Examination of the tobacco industry over the years has brought forth a broad range of economic issues. One set of questions is about the impact of the various assistance measures, including the local content scheme, on efficiency. To what extent did the assistance measures cause distortions to resource allocation and consumption decisions? Political economy questions also arise about collusion between growers and manufacturers, and the influence the industry may be able to exert over government policy.

How well have the growers been served in the long run by the assistance provided by the local content scheme that was once a source of great profit for them? They have had to face massive adjustment costs due to the realities of declining demand and a more open trading environment, changes from which they were somewhat insulated under previous assistance measures. Are they now being compensated for these adjustment costs? Does such compensation set a precedent for other industries facing adjustment? It may, for example, result in less incentive to adjust to declining protection and changing conditions, as there is the belief that the government will ultimately provide compensation.

These are the questions that will be considered in this chapter’s examination of the Australian tobacco industry’s local content scheme.
3.2 The industry in overview

3.2.1 Under the local content scheme

Prior to the removal of the local content scheme in January 1995, tobacco leaf was grown in Queensland, Victoria and New South Wales. Each state had a production quota administered by the Australian Tobacco Board (ATB)\(^{10}\). In 1994, Queensland had the biggest share of the leaf-growing industry, accounting for about 60 per cent of total leaf grown in Australia. Victoria was the next biggest growing state, with 36 per cent\(^{11}\). The entire Australian crop was sold domestically [IC, 1994].

In 1994 there were 600 quota holders\(^{12}\) supplying approximately 8.1 million kilograms of leaf that year to domestic manufacturers. This, together with excess stock holdings that had accumulated over previous years (see section 3.3 below), amounted to about 57 per cent of manufacturers’ requirements (the local content requirement).

There were three tobacco product manufacturers in Australia, with plants located in Melbourne, Sydney and Brisbane. In 1993 they employed about 4600 people [IC, 1994]. Local manufacturers supplied almost all tobacco products consumed in Australia. Lack of imports of tobacco products was not necessarily due to tobacco manufacturers being internationally competitive; in fact there were few exports as well. Nor was it because of import restrictions on the final products; as mentioned in Section 3.5 below, the effective rate of assistance for tobacco products was negative during this

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\(^{10}\) The ATB consisted of a representative from each of the Commonwealth, Victorian, Queensland and New South Wales governments, four members representing growers and four members representing manufacturers [IAC, 1981].

\(^{11}\) New South Wales had a small industry, which has since been wound back, with the NSW government initiating a buy out of the remaining production quota in 1994.

\(^{12}\) The number of quota holders can be used as a proxy for the number of tobacco farmers [IC, 1994].
period. Rather, the Industry Commission identifies a number of other factors that gave tobacco manufacturers a level of 'natural protection'. These included taste preferences within Australia for locally produced cigarettes, transport costs, Australian labelling requirements, and the existence of an excise tax in Australia which biased the manufacturing technique towards a lighter cigarette than was the norm internationally [IC, 1994].

The percentage of adults who smoke in Australia fell from 35 per cent in 1980 to 26 per cent in 1990 [IC, 1994]. Expenditure on tobacco products in 1989 was approximately 1.6 per cent of total consumption spending in Australia [IAC, 1987]. Just over $1.4 billion of this consumer expenditure was collected by Commonwealth and State governments in taxes (in 1985 dollars) [IC, 1994].

**3.2.2 The current industry**

Since the industry was deregulated in 1995 the number of tobacco growers has declined from 600 to less than 300. In 2000 there were 128 growers in Victoria, producing almost 60 per cent of leaf grown in Australia (up from 36 per cent in 1994). There were about 150 growers in north Queensland in 2000, and only a small number of growers remaining in southeast Queensland. The number of tobacco manufacturers has declined from three to two. Australian growers in 2000 produced about half of the leaf required by these two manufacturers [TRDC, 2000], down from 57 per cent five years earlier.

Consumption of tobacco in Australia has also declined. 24 per cent of the population were regular smokers in 1998 [AIHW, 1998], compared to 37 per cent in 1977 [ABS, 2000]. The long-term trend in smoking rates has been downward. In 1945,
72 per cent of adult males smoked; this figure was down to around 27 per cent in the late 1990s. (There has always been a smaller proportion of adult females smoking – 26 per cent in 1945, reaching a peak of about 33 per cent in the mid seventies, to below 23 per cent in the late 1990s.) [Quit, 2001].

Per capita spending on tobacco products has declined from $235 in 1990 to $146 in 1997 (in constant 1989-90 prices) [AIHW, 1998]. Net government revenue from tobacco was $4.2 billion in 1997-98 [AIHW, 1998].

3.3 History of assistance

The local content scheme in the tobacco industry operated between May 1936 and January 1995. The initial local content requirement (LCR) was small (2.5 per cent for cigarettes), and did not increase significantly until the late 1950s. The LCR was increased to 50 per cent in 1966, and remained at this level as a statutory requirement until the end of the scheme. However, tobacco manufacturers voluntarily agreed to a level of 57 per cent from 1977. This higher proportion was recognised in the Australian Customs Service Manual.

The LCS was one part of a package of assistance measures protecting tobacco growing, called the Tobacco Industry Stabilisation Plan (TISP). This was a joint Commonwealth/State arrangement, which was in place between 1965 and 1995. Under the plan, the Australian Tobacco Board (ATB) controlled all exports and interstate sales of tobacco leaf. It set the annual marketing quota and minimum price and grade schedules. It arbitrated if disputes arose between buyers and sellers of leaf about the grade of leaf offered. The ATB also directed the Tobacco Leaf Marketing Boards that
operated in each growing state. These boards could compulsorily acquire and then sell all leaf.

The TISP included (IAC, 1987):

- the local content scheme
- a minimum manufacturer’s stock holding requirement\(^{13}\)
- marketing and individual grower quotas\(^{14}\)
- administered leaf prices
- administered allocation of leaf. Manufacturers couldn’t just take the pick of the crop.

[IAC, 1987]

In 1981 the IAC conducted its first review of the tobacco industry in thirty years. The 1981 IAC report was on manufactured tobacco (the type that is used in pipes and roll-your-own cigarettes). The report concluded, “Tobacco growing is clearly one of the most highly assisted industries in Australia…. Assistance of such massive proportions suggests that the community has not been well served by the structure of production and

\(^{13}\) Prior to 1983 manufacturers had to hold stocks of leaf equal to about 18 months usage. This was over and above normal commercial stock holding requirements and resulted in increased costs to manufacturers [IAC, 1982]. The stock holding requirement was reduced to 13 months in the 1983-88 stabilisation plan. Reduced demand for tobacco products in the 1990s that was not matched by a decrease in quota size led to a blow out in the size of manufacturers’ stock holdings. In 1993-94 a large decrease in the size of quotas attempted to rectify this problem.

\(^{14}\) Quotas between states, and between growers within states, were initially set in accordance with average production levels that existed in the early 1960s. At the time of the 1981 IAC report there was no quota transfer between states, although there was limited transfer between growers within one state. [IAC, 1981] These arrangements were loosened in the 1983-88 stabilisation plan.
marketing which has developed under a sequence of tobacco stabilisation plans.” It recommended that a full review of the tobacco growing and manufacturing industries be commenced as soon as possible [IAC, 1981].

A full review of the industry was completed by the IAC in 1982. Report No.309 (of 18 October 1982) recommended that there be no controls on the growing and sale of tobacco from 1 October 1983. Phasing down arrangements were suggested in the report [IAC, 1982A].

The government did not accept the IAC's recommendations, and a new stabilisation plan was introduced for the years 1984-1988. The reasons given by the Government were that dismantling the plan would “cause severe disruption and undermine industry confidence at a time when investment is crucial towards improving industry efficiency” and “This decision fulfils Labor's pre-election commitment to the tobacco industry.” [Media Release 83/119 of 23.6.83 (Primary Industry)]. Some elements of the old TISP were modified to try to encourage the industry to become more efficient.

The IAC conducted a further review of the industry, which culminated in IAC Report No.405 of 24 September 1987. This report again recommended the abolition of the stabilisation plan from 1 October 1993, with phasing down arrangements in the interim. In the May 1988 Economic Statement the Government announced the gradual lowering of non-concessional rates of duty to 15 per cent on 1 July 1992. This was to “reduce the incentive for manufacturers to pay premiums for Australian tobacco”. In November 1988 the Government announced its decision on the 1987 report; the marketing quotas and administered pricing arrangements would terminate in October
1993, however the local content scheme would be extended until 1 October 1995 (as sought by the industry). This was despite the Government’s commitment to the general lowering of levels of protection. A further inquiry was set for 1993 [IAC 1988/89].

During this period of continued assistance for the tobacco growing and manufacturing industry, the government increased its campaign to discourage the consumption of tobacco. While this may seem anomalous, as the IAC said, “While government health policy permits any level of consumption, normal industry policy considerations should determine whether and how the industry is assisted” [IAC, 1982A].

3.4 The impact of protection

This complex array of assistance measures in the tobacco industry resulted in high levels of protection, well above the average for horticultural commodities in general [IAC, 1988/89]. Nominal and effective rates of assistance for the tobacco growing industry over a four-year period towards the end of the local content scheme are summarised in Table 3.1 below. It can be seen from this table that the tobacco growing industry received a great deal more assistance than agriculture in general during this period.
Table 3.1: Nominal and effective rates of assistance to the tobacco growing industry (per cent).

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<tbody>
<tr>
<td>Nominal rate of assistance</td>
<td>41</td>
<td>35</td>
<td>36</td>
<td>62</td>
<td>43</td>
</tr>
<tr>
<td>Effective rate of assistance</td>
<td>176</td>
<td>118</td>
<td>123</td>
<td>399</td>
<td>204</td>
</tr>
<tr>
<td>General agriculture - Nominal rate of assistance</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>General agriculture - Effective rate of assistance</td>
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<td></td>
<td>12</td>
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</table>

Source: IC 1994

The large increase in the effective rate of assistance in 1992-93 coincides with a substantial fall in the world price of tobacco leaf. As predicted by the model in Chapter 2, a decrease in the world price of the intermediate input increases the protectiveness of the local content scheme (see Section 2.4.2 above). In addition, the complexity of arrangements meant that the level of assistance to the industry was hidden from the public.

---

15 The effective rate of assistance estimates the subsidising effect of all government interventions [IC 1994].
The assistance measures also resulted in inefficiencies in the industry. Restrictions on leaf production quota transfers resulted in less than optimal farm allocation and farm size. The effects of declining demand in the early 90's were spread across all growers by the quota system, protecting the least efficient growers from market adjustment forces. These reduced quotas also threatened the viability of the more efficient growers, who might otherwise have picked up the slack as the less efficient growers were forced out of the industry [IC 1994]. The net result was too many farms operating at less than full capacity (many at only 60 per cent of capacity in 1994 [IC 1994]).

Leaf growers had little incentive to become more efficient as they had guaranteed market share and minimum prices. As manufacturers had to take run-of-crop leaf there was little incentive to improve the quality of leaf overall. Administered leaf prices distorted market signals for different leaf qualities, with price differentials between different leaf grades too low to provide incentives for top grade production [IC 1994]. These findings in the tobacco growing industry are consistent with the claim that local content schemes bias against gains in technical efficiency in the local input (see Section 2.5.6 above).

Clearly the local content scheme in the tobacco growing industry, together with the marketing arrangements it went hand in hand with, caused distortions in resource allocation decisions within the industry. Growers were protected from market forces (such as declining demand) that would otherwise have resulted in farm size adjustment. They were not forced to improve leaf quality. They benefited from considerably higher rates of protection than other forms of agriculture.
What about the consumption decisions of the consumers, i.e. the tobacco manufacturers? It can only be assumed that manufacturers complied with these arrangements to avoid inducing other government action. The IAC suggested it was in the manufacturers' interests to keep the leaf-growing part of the industry on side as it was seen as a valuable political ally. A united industry was seen as essential to try to prevent further government tax and health policy interventions [IAC, 1982A].

This suggestion is supported by the fact that manufacturers have paid more for domestic leaf in the past than the profit maximising price (the maximum domestic price for leaf, $P_{\text{max}}$) indicated in Chapter 2 of this thesis (see Table 3.2 below). This suggests manufacturers were taking other considerations into account, for example the costs of other possible government measures (such as higher excise tax) [IAC, 1984].

The following table compares the maximum domestic price manufacturers' would be willing to pay for the locally produced input (to meet the local content requirement) suggested by the theory in chapter 2, with the actual price paid over a four-year period.

**Recall:** \[ P_{\text{max}} = P^*(1 + t/k) \] (See Section 2.3.1 above)

where $P^*$ is the world price of the input, $t$ is the ad valorem tariff that would have to be paid on the input if the local content requirement was not met, and $k$ is the proportion of intermediate inputs that must be purchased locally to qualify for duty free entry of the remaining proportion of inputs, i.e. the local content requirement.
Table 3.2: Comparison of $P_{\text{max}}$ with actual domestic prices\textsuperscript{16} 1989-90 to 1992-93

<table>
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<tbody>
<tr>
<td>$P^*$</td>
<td>4.23</td>
<td>4.49</td>
<td>4.51</td>
<td>3.80</td>
</tr>
<tr>
<td>$P_{\text{max}}$</td>
<td>5.79</td>
<td>5.99</td>
<td>5.86</td>
<td>4.8</td>
</tr>
<tr>
<td>Actual domestic price</td>
<td>5.96</td>
<td>6.07</td>
<td>6.13</td>
<td>6.15</td>
</tr>
</tbody>
</table>

Source: IC 1994

3.5 Measures of assistance

Details of varying methods of measuring the level of assistance to the tobacco industry can be found in the IC Report No.39 (of 29 June 1994 - chapter 5 and Appendix L). Problems arise due to the difficulties of comparing the many types and grades of Australian and imported leaf. The Industry Commission report details the method by which a “price disadvantage” of Australian leaf is arrived at. This is then used to estimate nominal and effective rates of assistance [IC, 1994]. The IC concludes that the price disadvantage of Australian leaf has been persistently high. The average effective rate of protection over a four-year period from 1989 to 1993 was 204 per cent. This compares with an average effective rate of assistance for agriculture as a whole of just 12 per cent in 1991-92 [IC, 1994].

By contrast, the average effective rate of assistance to manufactured tobacco products (which are protected by import duties), is estimated to be negative for the same

\textsuperscript{16} Nominal prices shown
time period (minus 5 per cent). The manufacturing sector as a whole had an average effective rate of assistance of 14 per cent for the same period [IC, 1994].

The report lists some “natural” protection for manufactured tobacco products, including the differentiated nature of tobacco products. Local manufacturing establishments are more likely to be able to meet local taste, which is reported to be slow to change. They can establish local brands and also meet local packaging requirements. In addition, excise taxes are based on cigarette weight in Australia, with the result that Australian cigarettes are lighter than overseas brands. The heavier overseas brands are thus taxed more heavily per box [IC, 1994]. As these factors were not taken into account when estimating the effective rate of protection for tobacco manufacturing, the real ERP may have been well above minus 5 per cent, and could possibly have been above the manufacturing average of 14 per cent.

Chapter 5 of the 1994 IC report also shows a dramatic increase in the price disadvantage of local leaf in 1992-93 as compared with 1991-92. During this period international prices fell due to world oversupply, but domestic prices did not, resulting in an effective rate of assistance for 1992-93 of 399 per cent [IC, 1994]. This is consistent with the contention in Section 2.4.2 above that a local content policy can afford open-ended assistance to the industry when market conditions change.

3.6 The local content scheme and the GATT/WTO

There have long been elements of the TISP and its local content scheme that compromised Australia's position under the General Agreement on Tariffs and Trade (GATT).
The first was the actual local content requirement. This was set at 50 per cent by weight in by-law provisions in 1966. It was bound under the GATT in 1979 to a maximum of 50 per cent. However since 1977 manufacturers adhered to a 57 per cent local content proportion. This higher proportion was recognised in the Australian Customs Service Manual. Thus there were inconsistencies with Australia’s obligations under the GATT in this regard.

The second problem under the GATT was an arrangement introduced in 1982, which allowed import concessions on manufactured tobacco if overseas suppliers used a minimum of 57 per cent Australian leaf in their production. This was essentially allowing an export subsidy to domestic leaf [IAC, 1987]. Australian manufacturers would be able to receive higher prices for exported tobacco leaf, if the extra costs imposed on overseas tobacco manufacturers were outweighed by the import concessions thus gained. To the extent that this practice may be considered an export subsidy, it would be “contrary to the protocol on Export Subsidies adopted by the GATT as part of the Multilateral Trade Negotiations settlement - notably Article 10” [IAC, 1981]. Australian has also attacked export subsidies to agricultural production in other countries. Thus allowing one for Australian tobacco leaf could have compromised its position on other agricultural products, to the detriment of efficient Australian agricultural industries [IAC, 1981].

Australia was never challenged on either of these issues (unlike in the automotive industry, as seen in Chapter 4). However, the completion of the Uruguay Round of trade negotiations meant that the days of the local content scheme were numbered. Implementation of the Uruguay Round agricultural package meant that Australia would have to replace all non-tariff trade barriers with tariff-only or other
WTO-consistent support measures. The reforms that have taken place in the industry have done so in time to meet Australia's commitment in this regard.

3.7 Current assistance arrangements

IC report No.39 was released on 1 September 1994. The report found that the assistance measures operating in the growing industry had not allowed competition between growers in either price or quality. Growers had also been insulated from declining demand. The result was an "inefficient industry structure" with "too many growers, and too much capacity, to efficiently supply the demand for domestically produced tobacco leaf." [IC, 1994B].

There were now large adjustment costs to be faced by growers, and the regions in which they were concentrated. Consideration was given to measures to assist growers to cope with necessary adjustments, with the conclusion that assistance should not be given beyond the existing Rural Adjustment Schemes [IC, 1994].

As far as assistance to the growing industry as a whole was concerned, the recommendation was for an ad valorem tariff on imports of tobacco leaf of 25 per cent initially, phasing down to 5 per cent over 7 years [IC, 1994].

Once again the government did not accept the Commission's recommendations. During the industry review, manufacturers and growers had sought an arrangement whereby manufacturers would collaborate with each other, and with growers, to set the price and quantity of local leaf to be bought. This quantity would be not less than 50 per cent of manufacturers’ requirements, with a zero tariff to be applied to imports of remaining leaf requirements. The government supported this agreement, which would in effect have the same results as the existing arrangements, but would get around
problems arising from the implementation of the Uruguay Round of trade negotiations (see section 3.6). The commission did not support this proposal, indeed there were legitimate concerns that it would contravene the Trade Practices Act [IC, 1994].

The manufacturers were not happy with the proposal for a 25 per cent tariff, as they sourced a large percentage of their leaf requirements locally; due to taste preferences of Australian smokers, they would be unable to change the mix of leaf significantly for a number of years.

Final arrangements for the tobacco industry were based on a proposal put forward by the manufacturers in October 1994. The manufacturers offered $10.8 million towards industry adjustment, to be matched by state governments. The money was to be used to buy out production quotas of growers to encourage them to leave the industry, leaving the remaining growers with a more viable industry. Imports of tobacco leaf would be duty free from 1 January 1995, and manufacturers would enter into individual contracts with remaining growers, stipulating price and quantity. The contracts were to last between three to five years, allowing gradual adjustment towards a more competitive environment [IC, 1995 and Goldsworthy, 1996].

In the Productivity Commission’s “Review of Australia’s General Tariff Arrangements”, released on 22 July 2000, the class ‘Food, beverages and tobacco’ was reported to have a nominal rate of assistance on inputs of 3 per cent, and an effective rate of assistance of 2 per cent [PC, 2000B]. After decades of above average assistance levels, tobacco growing no longer stands out as a highly assisted industry.
Table 3.3 below summarises the average effective rates of assistance for tobacco growing and total agriculture from the year of the removal of the LCS in tobacco growing (1995).

Table 3.3: Average effective rates of assistance: comparing tobacco growing with total agriculture (per cent).

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<tbody>
<tr>
<td>Tobacco growing</td>
<td>160</td>
<td>98</td>
<td>56</td>
<td>25</td>
<td>1</td>
</tr>
<tr>
<td>Total agriculture</td>
<td>10</td>
<td>10</td>
<td>9</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

*Source: PC 2001*

### 3.8 Discussion and conclusions

Economic inefficiencies caused by protection of an industry are usually measured by reference to distortions in the allocation of resources on the production side, and to distortions in consumer choices on the consumption side.

In the case of the tobacco industry, protection distortions on the consumption side are largely overshadowed by government excises and taxes, which have a far more significant effect on the price of tobacco products than does protection of the growing and manufacturing industries. Indeed, it can be argued that as smoking is addictive, consumer preferences for smoking may be distorted, in which case a tax on consumption is called for if social welfare is to be maximised. (Part B of the 1994 Industry Commission report discusses the economics of smoking regulation in some detail.) To the extent that the government may wish to increase the price of cigarettes to a certain level to try to deter smoking, then the fact that some of this higher price goes
to growers rather than to the government is simply a transfer. Even so, this transfer to growers could be a source of economic inefficiency if the revenue thus foregone had to be raised elsewhere in a distorting manner.

It seems clear that the assistance given in the past has caused distortions on the production side. Tobacco growing has been assisted a great deal more than other forms of agriculture (see Table 3.1 above). Because of this disparity in assistance levels, farming resources have been drawn into the tobacco growing industry industry; these resources can (and are starting to) be used for other crops.

It could be said that the assistance packages of the past have not served farmers well in the long run, resulting as they have in chronic oversupply and too many small farms, as discussed in Section 3.4 above. There has been little incentive to improve efficiency or quality of leaf grown. Farmers have been left with large adjustment costs, instead of being able to gradually adjust to the realities of declining demand for their product.

There has been much discussion about compensation for growers, some of whom may be forced off the farms they have had for generations, by reductions in government assistance. One argument is that these farmers have done very well over the years because of the assistance packages, and have been on notice for several years that assistance would be scaled down, yet they made little attempt to adjust. In addition, compensation given to this industry could set a precedent for other industries facing adjustment. This precedent could deter adjustment in other industries, as they wait and lobby for compensation.
The Industry Commission report recommended that no additional assistance be given over that which is available to all farmers facing adjustment.

The government rejected this view, providing assistance to farmers who wanted to get out of the industry by buying back their quota. Having reduced the excess capacity in the industry, those who remain faced a better chance of successful adjustment.

There is also a view that the rapid adjustment encouraged by this scheme prevented a “slow haemorrhaging of the industry”, and may have been less costly to taxpayers in the long run, once welfare payments and other transfers that may have been initiated are taken into account [Goldsworthy, 1996].

In the end, which approach would have incurred least economic cost is difficult to judge. The solution adopted by the government was a pragmatic one, and kept most parties happy [Goldsworthy, 1996]. The end cost to taxpayers of either approach is also uncertain.

However, the problem of precedent is not small, given the environment of tariff reduction in Australia, and the number of other industries facing adjustment. The automotive industry, discussed in the next chapter, is an important example. When the New South Wales Government announced a package of payments to NSW tobacco producers to help them leave the industry, it was keen to say that the “one-off” $850,000 package “does not establish a precedent for other primary producers or industries affected by deregulation.” [Postscript, IC, 1994].

It is not clear that other primary producers have seen the issue this way. For example, the Australian Dairy Industry Corporation successfully lobbied for
structural adjustment assistance to be provided to Australian dairy farmers post dairy industry deregulation on 1 July 2000. The resulting federal government package of $1.8 billion allowed average payments for structural adjustment of about $72,000 per farm in Victoria and $142,000 per farm in New South Wales. The package also allowed for exit payments of $45,000 per farm. The package was funded by domestic consumers via a levy on all retail milk sales of 11 cents per litre for eight years [Edwards, 2002, pp. 12-13]. A similar assistance package is now in place for the sugar industry, also funded by a levy on domestic retail sales of sugar [PC 2002C].

In addition, there has been a history in this country of industries lobbying the government, for often huge amounts of protection. The costs of this protection are often hidden, and in any case are spread diffusely amongst the community. The tobacco industry has proved to be a powerful lobbyist, as evidenced by the number of times that the Industry Commission's (and before it the Industry Assistance Commission's) recommendations were disregarded by the government of the day.

The majority of Australians have not been served well by these cosy arrangements. This is becoming better known as the costs of protection become more public. Even so, the policy environment in Australia may be turning more protectionist once again, as discussed in the next chapter. In this case, public recognition by the government of the "need" to "compensate" farmers for large adjustment costs as assistance is scaled down (ignoring the fact that these policies have brought them huge profits in the past) adds weight to the protectionist argument. Publicity is given to the current adjustment costs faced by the industries losing their protection, whilst keeping quiet about the past costs that have been borne by the rest of the community for a very long time.
One further point should be mentioned. In Section 3.5 above no attempt has been made to isolate the effect of the local content scheme on the levels of assistance to the industry, from that of other elements in the TISP. It is very difficult to do so, and this in itself points to the lack of transparency of local content schemes, especially as they often work in conjunction with other schemes.

In chapter 4, the local content scheme works in conjunction with an export facilitation scheme in the automotive industry. It is to this industry that we now turn.
CHAPTER 4: SECOND CASE STUDY: THE AUTOMOTIVE INDUSTRY

4.1 Introduction

This chapter examines some aspects of the theory of both local content and export facilitation, and of their joint application to the Australian automotive industry.

In Chapters 2 and 3 it was seen that local content schemes have the potential to offer high levels of assistance with associated high economic cost. They often also involve administrative complexity and consequent wastage of resources.

Export facilitation schemes can also increase the level of assistance afforded an industry, encouraging further expansion of what may be an already over-expanded industry. This increases the inefficiency of resource allocation between industries, and hence adds unnecessary economic costs.

When both a local content and an export facilitation scheme are in place, the export facilitation scheme may encourage production in those activities that are closest to being internationally competitive, while at the same time replacing some of the least competitive production with imports allowed into Australia free of duty under the scheme [IC, 1990]. The two schemes may work together in a way that improves efficiency relative to the situation that exists with just one or the other scheme.

However, once the local content scheme is removed, these gains are lost and the export facilitation scheme tends to simply keep the industry larger than is warranted on efficiency grounds, at the expense of other industries. In this case the gain in intra-industry efficiency (removing the bias from inward orientation) has to be weighed up
against any worsening of inter-industry efficiency (the expansion of what may be an already over-expanded industry).

An additional problem with export facilitation schemes is that they are illegal under the World Trade Organization (WTO) rules, as they are essentially an export subsidy. It was generally believed within the industry that this would not create a practical problem because of the multinational nature of car manufacturers. However, in 1996 American leather manufacturers challenged an Australian leather manufacturer, Howe and Company Pty Ltd, under WTO rules on export subsidies. The dispute dragged on for four years and was eventually resolved in 2000. As part of the resolution, automotive leather was deemed ineligible for support under the new Automotive Competitiveness and Investment Scheme (ACIS) [Vaile and Minchin, 2000]. ACIS replaced the Export Facilitation scheme on 1 January 2001, and was designed to be more WTO consistent.

Export facilitation has received even less attention in the academic literature than local content theory. This chapter extends the local content model used in Chapter 2 to include export facilitation to answer some of these questions, and show how the two schemes work together. This is particularly relevant to other (particularly developing) countries that still use local content schemes in their automotive and other industries.

There is considerable ongoing debate about the future of protection in the automotive industry in Australia. New arrangements have come into effect at the beginning of 2001 and will last until the end of 2005. Future arrangements have only just been announced (in December 2002), and will be reviewed again in 2008.
The chapter is structured as follows. Sections 4.2 and 4.3 provide some general background on the Australian Automotive Industry, and a brief history of the different kinds of protection that have been applied to it. The theory of local content when coupled with export facilitation is then examined, and a model is developed to analyse the effects of the two policy measures working together. This section looks at efficiency and distributional effects, and (hence) the reason for the policy choice, including a brief look at political economy issues. The impact of export facilitation in the industry once the local content scheme has been removed is then examined, and some measures of the level of assistance currently enjoyed by the automotive industry in Australia are provided. The final section draws some policy conclusions, including WTO implications, and looks at the scheme’s applicability to other countries.

4.2 The industry in overview

The automotive industry in Australia currently consists of four producers of passenger motor vehicles. Manufacturing is concentrated in Melbourne, Geelong and Adelaide [IC, 1997]. These regions, particularly Geelong and Adelaide, rely heavily on the automotive industry for local jobs, and have lobbied the state and federal governments extensively on a number of occasions for a continuation of assistance to the industry.

The four manufacturers are Mitsubishi, Toyota, General Motors Holden and Ford Motor Company, each of which are subsidiaries of foreign multinational firms [IC, 1997]. Turnover for the whole industry (including vehicle producers, component and tooling manufacturers) was more than $17 billion in 2001–02. Around 55,000 people
are employed in the industry, over half of whom are in component production [PC 2002B, p.XVI].

In addition there are a large number of smaller firms that produce components (more than 200) and tooling (about 500). These smaller firms are also located in the above regions, as well as Sydney and other regional centres [PC 2002B, pXVI].

In 1996, about 54 per cent of vehicles sold in Australia were locally produced [IC, 1997]. Economies of scale are important in the automotive industry. Although average annual production has been increasing in Australia, it is still well below that of the most efficient plants overseas [IC, 1997].

One of the aims of the export facilitation scheme in the automotive industry was to encourage exports, and these have in fact been growing, particularly in components. Automotive exports have grown by about 190 per cent in real value between 1985 and 1996 [IC, 1997]. The Australian Minister for Trade, Mark Vaile, announced on 26 February 2001 that Australian automotive exports had reached a record of $4.2 billion in 2000 [Vaile, 2001].

4.3 History of assistance

Successive Governments have considered the Australian automotive industry an important part of Australia’s manufacturing sector. Part of this has been fuelled by nationalism, with a desire to have an Australian-produced car as part of the national ethos. Thus the level of local content in vehicles produced or assembled in Australia has remained a matter of high political importance.

Proposed reductions in tariffs have been met with fierce community debate and a belief by many that they would result in widespread job losses and even ‘the end’ of
the domestic car industry. This is despite evidence to the contrary. Model lines have been rationalised, and the industry has maintained production (at over 300,000 vehicles) since 1994, even though tariffs have halved in that time [PC 2002B, p.87]. In addition, exports have been growing strongly, doubling their value between 1998 and 2001, to $5 billion in 2002 [PC 2002B, p.88].

Resistance to tariff cuts has been greatest in areas where manufacturing plants are located, such as Adelaide and Geelong. Fierce lobbying has meant that the industry has been heavily protected, and remains one of the most protected industries in Australia. For example, the Productivity Commission’s *Review of Australia’s General Tariff Arrangements* [PC 2000B] found that the average effective rate of assistance (ERA) to manufacturing in 2000-01 was 3 per cent. In the Passenger Motor Vehicle (PMV) industry the ERA was 20 per cent. The only industry with a higher ERA was the Textile Clothing and Footwear (TCF) industry with an ERA of 26 per cent [PC 2000B].

Table 4.1 below summarises the average effective rates of assistance for passenger motor vehicles, textiles, clothing and footwear and total manufacturing from 1977/78 to 2000-01.

Protection in the past has been increased when the industry felt increased pressure from imports, effectively shielding the industry from international competition and making it inward looking [I.C. 1990].

The early industry (consisting of manufacturing of vehicle bodies and vehicle assembly) was protected by tariffs on vehicles imports. Tariffs were extended to various vehicle parts during the 1920s, resulting in the commencement of component production domestically. The Government offered incentives for 100 per cent
Australian content in 1936. General Motors Holden (GMH) produced the first Australian passenger vehicle in 1948 [IC 1990].

At the beginning of 1965 a local content plan was introduced for the industry. With periodic modifications, the local content plan was to remain in place until 1989 [IC, 1997].

Table 4.1: Average effective rates of assistance: comparing PMV, TCF and total manufacturing (per cent).

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<tbody>
<tr>
<td>Textiles</td>
<td>45.0</td>
<td>47.0</td>
<td>68.0</td>
<td>72.0</td>
<td>68.0</td>
<td>32.2a</td>
<td>17.0</td>
<td>25.1a</td>
<td>16.9a</td>
</tr>
<tr>
<td>Clothing &amp; Footwear</td>
<td>86.0</td>
<td>141.0</td>
<td>192.0</td>
<td>173.0</td>
<td>176.0</td>
<td>32.2a</td>
<td>34.0</td>
<td>25.1a</td>
<td>16.9a</td>
</tr>
<tr>
<td>Motor Vehicles &amp; Parts</td>
<td>49.0</td>
<td>73.0</td>
<td>123.0</td>
<td>65.0</td>
<td>60.0</td>
<td>21.3</td>
<td>20.0</td>
<td>11.2</td>
<td>10.2</td>
</tr>
<tr>
<td>Total Manufacturing</td>
<td>35.0</td>
<td>23.0</td>
<td>21.0</td>
<td>16.0</td>
<td>15.0</td>
<td>5.8</td>
<td>5.0</td>
<td>4.6</td>
<td>4.3</td>
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a Textiles, clothing and footwear combined
b The figure in brackets is for total manufacturing excluding TCF and PMV


In 1966 the import tariff on passenger motor vehicles increased from 35 per cent to 45 per cent, partly as a form of "compensation" to car manufacturers for
the increased price they had to pay for components under the local content scheme. The tariff increase was also partly due to the decreasing international competitiveness of the industry. Once again a local content scheme was used as justification for other forms of protection.

The tariff on passenger vehicles was reduced in 1973 as part of the across-the-board tariff cuts implemented by the government that year. However under increasing political pressure, the government then introduced import quotas on the automotive (and textile, clothing and footwear) industries in 1975. These were used to restrict imports of cars to 20 per cent of domestic sales and were intended to be a temporary measure. They remained in place until 1988 (apart from a short break in 1977) [I.C. 1990].

The export facilitation scheme was introduced into the industry in 1979 and ran until 2000. The export facilitation scheme has been replaced by the Automotive Competitiveness and Investment Scheme (ACIS), which was due to run until the end of 2005, but has recently been extended until 2015 [Koutsoukis, 2002]. The ACIS is discussed in Section 4.7 below.

4.4 Export facilitation

The export facilitation scheme awards “export credits” to companies that export motor vehicles or components. These credits can be used to import other vehicles or components without paying normal duty. Credits are transferable; they can be sold to other firms in the industry. The export credits are therefore in effect an export subsiday.

The exporting part of the industry can gain from economies of scale as it expands to export more, and the widening of the market may boost productivity growth. Products exported tend to be those that are closest to being competitive without
assistance. At the same time the duty-free credits are used to replace high cost, low volume, inefficiently produced Australian components or vehicles by less expensive imports. This frees up resources that can then be used in more efficient activities. In this way efficiency within the industry (intra-industry efficiency), is improved [Gruen, 1993A].

Traditional tariff type protection policies encourage inefficient and costly diversification as the industry looks inwards and expands to supply more of the domestic industry than it would under free trade. Export facilitation helps to partially remedy this problem and encourage specialisation and an outward looking orientation.

However, export facilitation encourages overall expansion of the industry as it increases the level of assistance enjoyed by the industry if the tariff is unchanged. Thus it increases the distortion of resources towards the protected industry and away from other industries that may be less protected. This decreases inter-industry efficiency. Thus to establish whether export facilitation makes Australia better or worse off, the gain in efficiency within the car industry has to be weighed against any loss in efficiency in resource allocation between it and other industries. This is an empirical question.

Use of an export facilitation scheme can unambiguously improve welfare if coupled with faster car tariff reduction than would otherwise be possible. Export facilitation used together with faster car tariff reform could be superior in terms of overall efficiency than simply having slower tariff reform. If both schemes provided the same level of assistance during the adjustment period, inter-industry efficiency would be the same under both policies. But intra-industry efficiency would be enhanced.
[Gruen, 1993A]. The export subsidy automatically decreases as the level of tariff decreases.

4.5 Export facilitation in conjunction with a local content scheme

In this section export facilitation is applied to an industry where there is a local content scheme already operating. This was the case in the automotive industry for 10 years, between 1979 and 1989. Assuming that some of the industry’s output is exported, and that export credits can be freely traded, then export facilitation effectively allows a reduction in $k$ (the percentage of local content that must be met before remaining inputs can be imported duty free). This is because additional inputs can be imported duty free (using export credits) over and above those allowed in duty free once the local content requirement has been met.

Figure 2.5 from chapter 2 models a reduction in the local content requirement, $k$. The figure is reproduced below (Figure 4.1).
Figure 4.1: A decrease in the percentage local content requirement (k) in the intermediate input market
A reduction in $k$ is illustrated by moving $D'D'$ to the left. A reduction in $k$ will increase $P_{\text{max}}$, the maximum domestic price producers will pay for inputs (and meet the local content requirement). It will also decrease the average price paid for inputs by the final good producers. As Figure 2.5 shows, the net result of these effects is unambiguously welfare improving. There will be a decrease in local production with a corresponding decrease in the deadweight loss to society on the production side, and an increase in total consumption (domestically produced inputs and imported inputs) with a corresponding decrease in the deadweight loss to society on the consumption side. Thus coupling an export facilitation scheme with a local content scheme can decrease the economic costs associated with a local content scheme that is operating on its own.

4.6 Political economy issues

It has been argued that export facilitation may be useful in improving the transition path of an industry undergoing tariff reform: it need not further expand the industry if it is coupled with faster tariff reductions than otherwise would be possible, politically, for example.

However, traditionally, additional assistance can be difficult to remove once in place, especially for industries coming under increasing import competition. Attempts to decrease protection are usually accompanied by claims for other forms of protection, or compensation. This may not be the case in the automotive industry, as the success of the program in encouraging exports could assist in the freeing up of trade in Australia. As an exporting industry is seen to be a successful one, it would then find it difficult to continue to argue successfully for assistance [Gruen, 1993A].
However, given the automotive industry's past success in lobbying for preferential treatment, this very appearance of success could have the opposite effect of bringing more support for export facilitation, lest its removal reverse the 'success' of the industry in exports! Just as in the heyday of local content schemes, encouraging local production was a political winner, so in the current political climate, encouraging exports is a winner.

There is an additional problem: export facilitation is effectively an export subsidy, which is illegal under the World Trade Organization's (WTO) rules on Trade Related Investment Measures (TRIMS). This was thought unlikely to be a practical problem in the case of the automotive industry for three reasons. First, export facilitation was in place to offset the negative effects that traditional protection has on intra-industry resource allocation. Second, because Australia is unlikely to become a major exporter of vehicles and/or components in international markets, competitors would not see it as a major dumper of these goods. And thirdly, the multinational nature of the companies in the domestic industry meant that it was unlikely to be challenged in any case by their parent companies abroad, especially as the EFS was to phase down as tariffs fall.

The Howe Company Pty Ltd dispute showed that despite these factors, the Australian automotive industry export facilitation scheme was not immune from challenge under WTO rules. In any case, it was always questionable whether Australia should be breaking the WTO rules in any instance just because we could get away with it! Although the Howe and Company Pty Ltd dispute was ultimately settled without the automotive (and Clothing Textile and Footwear) Export Facilitation Scheme being taken before the WTO dispute procedures, there was a great deal of concern at the time
that this would be the case [AFR, 1996]. In any case, the writing was on the wall for the export facilitation scheme, it was ended in 2000, and the new ACIS was designed to be more WTO consistent.

4.7 The impact of protection in the automotive industry

The automotive industry is a large and complex one, and as such, the impact of assistance measures on the industry and the economy as a whole is best analysed using computable general equilibrium models.

As in the tobacco industry, it is very difficult to isolate the effects of different types of assistance on the industry.

In the Industry Commission’s report in 1997, estimates from the MONASH model were used. Different scenarios of tariff reduction were compared to a base case of tariff reduction to 15 per cent in 2000, with a tariff rate of 15 per cent then maintained until 2005. This is in fact what is happening in the industry. The majority report of the Industry Commission recommended tariff reductions to 5 per cent by the end of 2004, but the government did not accept this recommendation.

If further tariff reductions had continued, the MONASH model predicted a long-term increase in real GDP of between 0.034 to 0.185 per cent of GDP. This equated to an increase of between $65 and $904 million by 2009-10. In 1997 the estimated present value of these gains, was “around 1.6 to 6.3 billion dollars (in 1995-96 prices)” [IC, 1997]. This increase in real GDP is an indication of benefits foregone by not following a regime of further tariff reductions over the next few years.

Although it was estimated that employment in the automotive industry would decrease by between 3 and 7 per cent, employment overall in each state was estimated
to increase by 26-27 per cent between 1997-98 and 2009-10. The automotive industry would continue to grow (at a slower pace), due to growth in automotive component exports and domestic economic growth [IC, 1997].

The commission also examined the impact of protection on consumers and concluded that, on average, protective measures added about $3400 to the price of cars in 1996. It was estimated that, with tariffs reducing to 15 per cent by 2000, the impact on consumers in 2000 would be $2100 on average (at 1996-97 prices) [IC, 1997]. As tariffs are to continue at 15 per cent until the end of 2004, it is reasonable to expect that consumers are out of pocket by an even larger amount as the quantity of cars sold rises over time.

4.8 Current assistance arrangements and the GATT/WTO

New arrangements for the automotive industry came into effect on 1 January 2001. Prior to this date, tariffs were reduced by 2.5 per cent per annum until they reached 15 per cent in 2000. The export facilitation scheme continued to operate in this period, and passenger motor vehicle manufacturers were allowed some imports duty free - up to 15 per cent of the value of production of each car (under the Duty Free Allowance scheme).

Tariffs post 1 January 2001 are to remain at 15 per cent until 31 December 2004, and will then reduce to 10 per cent. The export facilitation scheme has been replaced by the Automotive Competitiveness and Investment scheme (ACIS). This scheme issues import duty credits to motor vehicle producers and component producers for “eligible investment in plant and equipment and research and development”. The import duty
credits can be used to pay customs duty on "eligible" imports, or may be transferred [AusIndustry, 2001].

The aim of the scheme, as reported in the Explanatory Memorandum to the Customs Tariff Amendment (ACIS Implementation) Bill 1999 is to meet "four key Government objectives", as follows:

- "Encourage the development of a sustainable, prosperous and internationally competitive automotive manufacturing industry in Australia;"
- Improve the overall economic performance of the Australian automotive industry;
- Provide good quality, competitively priced vehicles to the Australian consumer; and
- Meet Australia's international obligations and commitments" [HoR, 1999].

The scheme seems to be intended to encourage investment and research and development, in order to increase the Australian automotive industry's international competitiveness. Exports of passenger motor vehicles (PMVs) are rewarded at a higher rate than PMVs sold in Australia or New Zealand, and investment in plant and equipment and research and development (R & D) is also rewarded. Manufacturers are able to earn import duty credits as follows:

"Motor Vehicle Producers (MVPs) will be able to claim:

- Duty credit equal to 15 per cent (uncapped) plus 10 per cent (capped) of the value of production of PMVs sold in Australia and New Zealand, multiplied by the relevant tariff rate;
Duty credit equal to 25 per cent of the value of production of motor vehicles (other than PMVs sold in Australia and New Zealand), engines and engine components, multiplied by the relevant tariff rate; and

Duty credit equal to 10 per cent of their investment in plant and equipment averaged over the preceding three years.

Automotive Component Producers (ACPs), Automotive Machine Tool and Tooling Producers (AMTP) and Automotive Service Providers (ASPs) will be able to claim:

Duty credit equal to 25 per cent of their investment in plant and equipment averaged over the preceding three years. And,

Duty credit equal to 45 per cent of the value of their investment in R & D averaged over the preceding three years” [HoR, 1999].

Benefits of the scheme have been capped at a total of $2 billion over five years, and there is a 5 per cent (of previous years sales) annual limit to benefits for each company, to meet WTO obligations.

The ACIS was intended to last only until December 2005, and the benefits from the scheme will automatically decrease at the end of 2004 when the automotive tariff decreases to 10 per cent. However, given the automotive industry’s history of successfully lobbying for assistance over and above that provided to almost every other manufacturing industry (the Textile Clothing and Footwear industry is the only exception), the recent announcement of an extension to the ACIS scheme is no surprise. In December 2002 it was announced that a further $2.8 billion of subsidies would be provided under the ACIS from 2006 to 2010 (the same level that was provided between
2001 an 2005), and $1.4 billion from 2011 to 2015. Tariffs will decrease from 10 per cent to 5 per cent in 2010, after a further Productivity Commission review in 2008 [Koutsoukis, 2002].

4.9 Discussion and conclusions

The automotive industry in Australia has a history of a high level of assistance, which has continued despite a climate of generally reducing tariffs on other areas of manufacturing. Extensive lobbying by car manufacturers has played on the Australian car icon, and also fears of regional unemployment and structural adjustment, and has enabled the high level of protection to continue to be a political necessity. For example, Geelong is the home of a components manufacturing plant for Ford, along with Ford product design and engineering. These facilities provide local employment in the car industry. Geelong is also home to a marginal federal seat. It is common to see car bumper stickers and signs by the road calling for “no tariff cuts”. The political risk of ignoring these signs is obvious. This is despite the disadvantages to consumers who have to pay considerably higher prices for cars, and also to other business that use cars and automotive products as inputs. The disadvantages are spread thinly amongst voters in many regions, whereas the benefits of protection are concentrated in particular regions.

Shielded from international competition, the Australian car industry fell further and further behind world’s best production standards, with inefficient practices and an inefficiently high number of models being produced. Faced with huge transition costs if protection were to be removed more abruptly, the industry has been able to successfully lobby several times for transition and adjustment packages. These have imposed
substantial costs on consumers and other businesses, who had already been paying high prices for cars when tariffs and other assistance levels were high.

Despite fears that declining assistance would lead to the end of the industry, it has been able to hold its own. The later forms of adjustment assistance which encouraged the industry to look outwards rather than inwards (the export facilitation scheme and the ACIS package) have helped the industry become more internationally competitive, with exports increasing from 10 per cent of production 10 years ago to 30 per cent of production now [PC 2002B, p.XSVI].

Even so, it is worth noting that the recently announced extension of the ACIS package provides subsidies to the value of $50,090 per current industry worker over the next five years. This does not include the economic costs of continued relatively high tariff protection (as compared with most of the rest of the manufacturing sector). It is also worth noting that adjustment has been in the air since the first Button Car plan in 1984. By 2015, the industry will have been “adjusting” for over 30 years.

In the previous chapter it was noted that higher prices for the final product, cigarettes, might help meet public health objectives (i.e. reduce negative externalities) by increasing the cost and lowering the incidence of smoking. In the automotive industry however, higher car prices (resulting from the mix of protection on inputs and the final product) may have negative public health externality consequences. The high cost of cars in Australia has, in the past, tended to encourage people to hold on to their cars for longer, increasing the average age of cars in Australia. This has increased negative externalities associated with cars, for example older cars tend to have increased emissions, and are more likely to develop potentially unsafe faults. This has to be
weighed up against the possibility that, as cars become cheaper with reductions in tariffs, there may be an increase in the number of cars on the road. This offsetting effect may be small if the price elasticity of demand of the number of cars is low – if consumers are more likely to upgrade their car rather than buying additional cars.

The experience in New Zealand, as the country’s assembly plant closed and the country moved towards free trade in imports of both new and second hand vehicles, was that there was an increase in the number of motor vehicles and a decrease in their average age. Free trade was combined with an increase in safety inspections (to every six months). The net result was a decrease in negative externalities from cars, including a reduction in noise and air pollution, fewer ugly old cars and fewer accidents (because of six monthly tests on brakes, tyres, etc).

In the case of New Zealand’s automotive industry, a move to free trade was accompanied by other intervention targeted more directly at the source of the externalities. Chapter 5 examines an industry in which public good aspects and the presence of positive externalities are used to justify many forms of intervention, including the local content requirements.

This thesis now turns to the broadcasting industry.
CHAPTER 5: THIRD CASE STUDY: THE TELEVISION INDUSTRY

5.1 Introduction

The broadcasting industry in Australia has the only remaining major local content policy in this country. This chapter examines the television sector of the broadcasting industry. In some respects the television industry, and the operation of the local content policy within the industry, is quite different to the previous two case studies. It is a service industry, and one with public good characteristics. Market pricing may lead to inefficient outcomes in the presence of public interest objectives of promoting Australian culture and ensuring that a diversity of views may be heard.

For these reasons, some form of government intervention may be necessary and justifiable. This chapter examines whether the local content requirement that is currently operating in the industry is the most appropriate way of meeting those social objectives (which are taken to be a given here).

In addition to the social aim of promoting Australian cultural values and national pride, the local content requirement has an economic effect – protecting the local production industry [Brown and Cave, 1992, p. 379]. Often ‘infant industry’ type arguments are used to justify this local protection, so these arguments are examined below too.

The effects of the local content scheme on final service producers (the broadcasters) also will be examined. The extra costs imposed on broadcasters of meeting the local content requirement have traditionally been used to justify a great deal
of the other regulation currently in place to assist the television industry, including restrictions on entry. This argument has been used a great deal more explicitly in the television industry than in the tobacco and automotive industries. This has been possible because of the role of the local content requirement in promoting social objectives, rather than just providing protection for the intermediate input producer.

However, as we saw in the other industries studied, in each case there was a tendency for final good and intermediate good producers to stick together to ensure the overall package of protection remained. (In the case of the tobacco industry, final good producers had a vested interest in meeting the government’s objectives, over and above the cost incentive of duty free entry of remaining imports, to try and avoid additional anti-smoking measures.)

Thus in all three industries studied, local content rules have become part of a package of protection which has become prolonged and entrenched, and has resulted in high levels of protection, the exact extent of which is difficult to determine. In the television industry the distinction between economic objectives and social interest objectives has become blurred, with participants tending to argue for measures in the name of social objectives, where in fact the measures are more likely to provide mainly private economic benefits to these participants.

Defining what can be counted as local content is very problematic in the television industry. The necessity of finding extra funding for productions has led to an increasing tendency towards co-productions, with some ridiculous consequences for definitions of what is local. For example, producers of the mini-series Moby Dick (who were based in the USA) managed to have the production classified as Australian-

Difficulties in defining what is local content, together with issues arising from changing technology and the move to digital television, may result in local content regulation failing to meet its objectives. As discussed in previous chapters, even if we accept the non-economic reasons for protecting the local industry, and in the case of television, also promoting cultural objectives, we must still examine the local content policy to judge whether it is efficient and effective.

There are other differences between the local content scheme in the television industry and the other industries studied. In the television industry, unlike the previous case studies, the incentive to comply with the local content requirement is absolute - television licences are issued subject to compliance. In the development of the model in Chapter 2, final good producers were given the choice of not meeting the local content requirement and paying the tariff on imported inputs. This choice is not available to final good producers in the television industry – they must meet the local content requirement or risk losing their television licence.

A further difference is in the international arena. In both the tobacco industry and the automotive industry, local content scheme became illegal under the WTO. This is not the case in the television industry, which is currently not covered by the General Agreement on Trade in Services (GATS) (and is not currently on the negotiating table for the GATS either, although it has been included in the US/Australia free trade agreement recently negotiated). Thus there are similarities and differences between the
television industry and the other case studies. This chapter examines some of these aspects in more detail.

5.2 The industry in overview

There are currently three commercial television networks, Seven, Nine and Ten. The licence ownership of the main networks is restricted to State capital city stations, however they also have programming affiliations with regional networks which hold all the regional television licences. There are a total of 48 commercial television station licences. Australia also has two public sector broadcasters, the Australian Broadcasting Corporation (ABC) and the Special Broadcasting Service (SBS). Foxtel, Optus and Austar are the three major subscription television operators. In addition, there are numerous commercial radio licences, community radio licences and six community television licences [PC 2000A, p.27]. There will be no new commercial television licences until at least 2007.

The television industry in Australia is subject to a considerable amount of regulation. This includes:

- two public sector broadcasters - the Australian Broadcasting Corporation (ABC) and the Special Broadcasting Service (SBS).
- restrictions on ownership of private sector broadcasters,
- restrictions on how private broadcasting is financed,
- control over the composition of output (including local content rules), and
- restrictions on entry.

[Brown and Cave, 1992, p. 378]
Broadcasting industry regulations are given in *The Broadcasting Services Act 1992* (BSA), though the public sector broadcasters are governed by separate Acts. The objectives of the BSA include facilitating efficiency, competitiveness and responsiveness to audience needs of the broadcasting industry, as well as promoting the role of broadcasting services in “developing and reflecting a sense of Australian identity, character and cultural diversity”.17 (From the *Broadcasting Services Act 1992*, s.3.)

The BSA 1992 established the Australian Broadcasting Authority (ABA), which is responsible for issuing licences, setting of content requirements and monitoring content, amongst other things.

The public good aspects of television have traditionally justified most of this regulation. The expense of the production of a program is a fixed cost, and once a program has been produced it can be broadcast by many stations (and received by many individuals) at virtually zero marginal cost.

In addition, importance is placed on television as a source of national pride and cultural identity. Local content rules have always been an important part of the television industry in Australia, as in many other countries. Australian content programming has been a condition of holding a broadcasting licence since 1961. Australian content rules are seen as having an economic function (protecting the Australian industry) as well as a social function (promoting national pride and cultural values) [Brown and Cave, 1992, p.379].

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17 As noted in the previous section, these goals have worked against each other in practice.
The cost to television licence holders of complying with Australian content requirements has often been used as justification for other forms of regulation, notably restrictions on entry and ownership. The restricted allocation of licences has been a very significant factor in the build up of economic and political power amongst existing licence holders; this power has been used to circumvent reform and change, particularly "change involving increased competition and viewer choice" [Owen et al., 1974, p.12]. This concentration of power and influence is of particular consequence in the television industry, which arguably has the ability to influence voter's political choices, and therefore makes politicians very sensitive to the demands of key industry players.

The Productivity Commission, in its Inquiry into broadcasting completed in 2000, questioned whether this justification is reasonable in view of the high value of television licences that has arisen as a result of continuing restrictions on entry [PC 2000A, p.21]. For example, at 30 June 1998, the average value of a commercial television licence was $64.9 million (regional licences are included in this average). The three licences in Sydney were worth an average of $347.2 million each, and in Melbourne they were worth an average of $201.1 million each [PC 2000A, p. 325].

In 1999-00 the total revenue for commercial free-to-air television was $3.3 billion. Expenditure was $2.5 billion (a surplus of $803 million) [Harley, 2002, p.3]. Average daily television viewing was 3 hours and 13 minutes in 2000, with 82 per cent of prime time viewing in the metropolitan markets being of commercial free-to-air stations [Harley, 2002, p.3].

There has been very little economic analysis applied to the television industry in general, and even less to the impact of local content rules on the structure of the
industry, or on the quality and diversity of Australian TV programming. The recent Productivity Commission inquiry [PC 2000A,p.379] “takes the stated social and cultural objectives as given”, though the inquiry calls for a future inquiry specifically into the impact of local content rules. In addition the inquiry points out that, with changing technology, the existing content rules may become ineffective.

The social objective of promoting national pride and cultural identity may indeed be judged to override economic costs to television licensees and consumers. However, this does not mean that the impact of local content rules on the industry should not be examined. It is still desirable to find the least-cost way to meet social objectives. Perhaps a further consideration could be whether a stereotypical depiction of the Australian identity and culture may inhibit broadening of Australian minds, resulting in a less international, more nationalistic and xenophobic society.

On 1 January 2001 broadcasters in the capital cities in Australia commenced transmitting digital signals alongside their analogue signals. Regional stations are to commence digital transmissions in 2004. The government lent (without charge) an extra channel (i.e. additional spectrum on which to transmit television signals) to each of the five free-to-air networks (including the ABC and SBS) to enable them to make the transition to digital signals, while maintaining analogue signals for eight years [PC 2000A, pp p – 10].

In addition to the start up date for digital television of 1/1/2001, the government has mandated the transmission of at least 20 hours per week of high definition (cinema quality) signal transmission, and continuous broadcast of a standard definition signal [PC 2000A, p. 15]. The government has prohibited multichannelling (transmitting
multiple programs simultaneously over one channel) by commercial stations, at least until the end of 2005. This is to protect pay TV operators [PC 2000A]. In addition, no new television licences will be issued until at least 2007.

The commencement of digital TV in Australia, in particular the mandating of high definition television, and the possible introduction of multichannelling after 2005, has ramifications for the achievement of local content objectives in Australian television. In addition, the changes in technology that increasingly allow media content to be viewed on non-traditional platforms (such as the internet) will also affect the relevance of local content policy in Australia. These issues will be examined further below.

5.3 History of content regulation

Quotas for Australian content were first introduced into the industry in 1961. Prior to that The Broadcasting and Television Act 1956 required that Australians be employed as far as possible in the industry, but did not set specific quotas on program content [PC, 2000A, p. G.1].

In 1961 established television stations were required to meet a local content quota of 40 per cent of total broadcast time, including one hour per week in prime time (then defined as 7.30pm – 9.30 pm) [PC, 2000A, p. G.1]. From 1961 until 1998, quotas for Australian content were changed 14 times. A points system was introduced in 1973 to try and encourage programs seen as more beneficial to the achievement of the policy’s objectives. In the following years the points system was refined and more encouragement was directed towards first release drama and documentaries.
Additional requirements for children's television content were put in place in 1967, initially simply providing incentives for the transmission of children’s programs. Quotas were introduced in 1971, with a points system introduced in 1973 to try and improve quality. Successive changes increased and refined the quota system for children’s television, including the introduction of a ‘C’ classification for children, and a ‘P’ classification for preschoolers in 1977 (with no advertisements allowed during ‘P’ programs.) [PC, 2000A, p. G.2]. Current quota levels are detailed in the section 5.4 below.

5.4 Current assistance arrangements

Since 1998, 55 per cent of all programs broadcast on commercial free-to-air television stations between 6.00 a.m. and midnight must be Australian (averaged over a year).

There are several sub-quotas within this overall quota. These relate to:

- First release Australian dramas. Each commercial station must meet a requirement for a minimum of 225 points per year, with a minimum of 750 points over three years. Different formats earn a different number of points per broadcast hour; this is to encourage a mix of program types. It was also intended to recognise the differing production costs and risk factors associated with the different formats, with the assumption that more costly formats tended to provide higher quality Australian content [ABA, 2002B, Appendix D, p.3]. For example serials (which are produced at the rate of more than one hour per week) score 1 point per broadcast hour, series (produced at the rate of one hour or less per week) score 2 points, and
telemovies, mini-series and feature films score 3.2 points per broadcast hour (ABA, 2002B, Table D.1).

- First release Australian documentaries. A minimum of 20 hours per year.
- First release Australian children’s (C) programs. A minimum of 130 hours per year including at least 32 hours of first release Australian children’s drama per year.
- Australian preschool programs. At least 130 hours of ‘P’ programs per year (which may not be repeated more than three times in five years) [PC 2000A, p.389].
- At least 80 per cent of television advertising must be locally produced.

Sub quotas must be shown during ‘prime time’, i.e. evenings for adult drama and outside school hours for children’s programs. [PC 2000A, p.389].

A program must be produced under the creative control of Australians to be classed as Australian content. The producers of the program must be Australian (although co-producers may be non-Australian). Directors or writers and 50 per cent of leading actors or on-screen presenters must be Australian and not less than 75 per cent of major supporting cast for drama programs. The program must also generally be produced and post-produced in Australia [PC 2000A, p.386]. Since 1999 New Zealand programs have been counted as Australian content, under the Closer Economic Relations Agreement. (CER). Despite concerns at the time, this has not resulted in an influx in New Zealand made programs.
As previously mentioned, defining what can be counted as 'local' in the television industry can be very problematic. A program could meet the creative control requirements and still not 'look' or 'feel' Australian. For example four series of *Flipper* have been made in Queensland; the fourth series would have met the creative control criteria, even though it is an American story, developed outside Australia and intended for release in America [ABA, 2002B, p.118]. *Flipper* was not broadcast in Australia and so did not earn Australian content points, but the potential to do so existed.

Just as a program could meet the creative control criteria and not be at all Australian, a program could feel Australian without necessarily meeting the criteria at all. The decision to apply the CER agreement to television and allow New Zealand content to count as local came after a High Court of Australia judgement in 1998 in *Blue Sky v Australian Broadcasting Authority* [1998] HCA 28. In addition to finding that the Australian content rules were inconsistent with Australia’s CER agreement [PC, 2000A p.387], the High Court found that Australian creative control was either irrelevant or unnecessary to achieve Australian content, and that, in fact, anyone can make an Australian program [Harley, 2002, pp8-9]. If this is the case, then the creative control criteria are simply protecting the local industry. Some industry participants argue that there must be a certain level of Australian industry activity before the cultural and diversity elements of the local content requirement can be met. In this way the distinctions between industry protection and cultural and social objectives become increasingly blurred. This has implications for the US-Australia free trade agreement that has recently been negotiated (but has still to be passed by Parliament in Australia and Congress in the USA). Greater access to Australia’s viewing market was one of the
demands being made by American negotiators, whereas Australian policy is currently to retain the local content policy.

There is disagreement about whether non-Australians really could deliver “an Australian national identity” [Harley, 2002, p. 10]. There is also disagreement about whether the local content requirement as it stands delivers diversity and a fair representation of multicultural Australia. The Australia Council’s submission to the ABA Review of the Australian Content Standard (dated 1 February 2002), quoted Cyndi Tebbel writing for *Elle Magazine*, and quoting Lex Marinos:

“Whole sections of our society simply do not exist [on television screens].... And the message they receive from their exclusion on television is that they are not part of Australia. To disenfranchise so many people by perpetuating the image of Australia according to *Neighbours* is immature, irresponsible, inhuman and potentially damaging to society.”

Section 5.5 below examines why minority groups are likely to be underrepresented in television programs on commercial free-to-air television, where networks face the financial necessity of delivering the biggest possible audience to advertisers.

Meeting Australian content quotas is mandatory - the penalty is loss of television licence. This form of enforcement is different to those used in the tobacco and automotive industries, but is covered in Chapter 2, the theory chapter.

The Productivity Commission’s report of 3 March 2000 recommended retaining the existing overall quota for Australian content, along with the existing sub-quotas. These quotas are to be retained until a further inquiry into cultural policy in the television industry can be undertaken, and a new framework that will address
technology changes can be put into place. The report recommended that this process should be completed prior to the switch-off of analogue services in 2009 [PC 2000A, p.422].

Since then the ABA has conducted a review into the Australian content standard. The final report had not been released as of February 2003, however in July 2002 the ABA proposed a number of amendments. The proposals include:

- A new annual first release adult drama quota of 260 points, with a three-year quota of 890 points.
- Revisions to the format factors for different types of drama to better reflect changes in licence fees and to provide incentives (that better reflect costs and risks) for “high end” drama [ABA, 2002B, Appendix d p.34].

Under the proposed format factors one hour of a serial achieves 1 point, one hour of a new series or a series produced by an independent production company with a licence fee of $300,000 or more per hour achieves 3 points and other series achieve 2.5 points. One hour of a mini-series achieves 4 points, as does an hour of a telemovie and a feature film that meets certain licence fee requirements. Other feature films are rewarded with 2.5 points per broadcast hour. [ABA, 2002B, Table D.17]

- Introduction of bonus points within the C drama sub-quota to provide incentives for feature films and telemovies [ABA, 2002B, Appendix E, p. 73]
Increase the documentary quota to 26 hours, counting each hour of a documentary program as one-and-a-half hours under certain conditions of the pre-sale price [ABA, 2002B, Appendix F, p. 111]

5.5 Television and the GATS

Australia has effectively quarantined its audiovisual services sector from inclusion in negotiations being undertaken under the GATS (part of the DOHA round of trade negotiations intended to conclude in January 2005).

The Department of Foreign Affairs and Trade has stated that

“The successful achievement of Australia’s cultural objectives in the audiovisual sector depends in large measure upon the existence of a vibrant local film and television production industry to develop Australian programs for broadcast and exhibition.”

and further, that

“it is essential for the Australian Government to have access to a wide range of policy measures and the flexibility to apply them as necessary to ensure that Australia’s cultural and social objectives for the audiovisual sector are met.”

[DFAT, 2001]

In this way the government is stating its intention to keep regulation of the Australian television industry, including the local content policy, within Australian government control.
Similarly, the government had indicated that it would quarantine the television industry from inclusion in the free trade agreement recently negotiated with the United States of America [Vaile, 2003]. However in the end the agreement only quarantined the local content requirement for existing delivery platforms whilst restricting the application of local content requirements under future technologies.

### 5.6 Social objectives

As mentioned previously, compliance with Australian content rules is a condition of licence for commercial and subscription television broadcasters. Free to air television is the most heavily regulated as this form of media is assumed to have the greatest degree of influence. [PC 2000A, p.385].

There is considerable debate about the influence of different forms of media on society’s opinions and behaviour. Free to air television reaches into 99 per cent of Australian homes [PC 2000A, p.385], and is assumed to be very influential. However some argue that the print media, although accessed by fewer people, is also very influential as it “forms the political agenda”, and that radio can also have a lot of influence.18 These other forms of media do not have the content restrictions that free to air television has.

Clearly some measure of the degree of influence of television is important in deciding about content regulation, for if television has little influence on society then insisting on content quotas will be largely irrelevant to reaching societal objectives of

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18 For a discussion on different views about the degree of influence of different media types, see the Productivity Commission’s report No. 11 p.p. 447 - 449.
national pride and cultural identity. If television is very influential then effective Australian content regulation may indeed be important.

The PC report concludes its discussion about the level of influence of different forms of media by recommending that more research should be undertaken by the ABA into the influence of various forms of media [PC 2000A p.449].

If we accept for the moment that television does influence society’s opinions and behaviour, and can affect how we feel about ourselves and what we believe about our society, then it is important to look more closely at the objectives of Australian content regulation. Why is it believed that the market, left to itself, will not provide an optimum mix of Australian and overseas programs?

The cultural objectives of the Broadcasting Services Act (BSA) include “developing and reflecting a sense of Australian identity, character, cultural diversity”. Social objectives include community education and information. Diversity and choice is seen as important, and many have argued that freedom of expression and people’s “right to know” underpins our democracy [PC 2000A p.380].

To examine the question of market failure it is necessary to look at the public good aspects of free to air television. Once a program is made and transmitted it can be received by anyone with a television set within the transmission area. Viewers cannot be excluded or charged directly for a program. Their preferences cannot be directly gauged.

Free to air television stations receive revenue via advertisers who are interested in reaching the largest possible audience that will be most responsive to their advertising. In this way minority audiences can find that their preferences are ignored.
This is a market failure; that the nature of financing free to air television, necessitated by the public good aspects of television, does not recognise minority tastes, and that in the interests of promoting recognition of, tolerance and respect for minorities this failure of the market should be addressed.

What about majority preferences? Does it constitute a market failure if advertising research indicates that the way to sell margarine is to advertise during American movies? Is it that expressed preferences are wrong, or do other factors come into play?

Television programmers do not just look at revenue alone. In attempting to maximise profit from each time slot they have to look at revenue to cost ratios. Even if quality Australian drama attracts a very large audience, it is costly to produce, and so may be replaced by lower cost imports even though they may attract a smaller audience, depending on which type of program generates the highest absolute profit. Without regulations to ensure diversity, programming would consist of endless repetitions and small variations on a tried and true overseas format that is cheap to purchase and attracts a regular audience that is partially satisfied by what is broadcast.

This is more than an argument about Australian producers not being able to compete with overseas imports. Because of the non-rivalrous consumption aspects of television programs, once a program has been produced overseas for an overseas audience, it can be purchased cheaply by Australian stations relative to the cost of producing home-grown drama. (It is of course true that some Australian programs sell well overseas – Neighbours and Home and Away are two examples.)
Other arguments are used to support regulations that ensure a degree of programming diversity. Diversity can be seen as a form of merit good. Viewers' preferences could be seen as incomplete or irrational, and certain types of programs (called “merit programs” [Brown and Cave, 1992]) considered good for them regardless of their preferences.

It can be argued that merit programs may not initially be popular, but once the audience has been exposed to them for a while they may take off and become economically viable. This is an infant industry type argument, although it applies on the demand side rather than the supply side of the market. [Brown and Cave, 1992].

There does seem to be anecdotal evidence that it is difficult to know which programs will be a success in advance. Risk is an inherent part of many business ventures however, so this is not an argument for protection unless there are externalities or market failures resulting in risk levels being inefficiently high. Some American style written-to-a-formula type programs have failed miserably, whereas some Australian dramas, which might have been considered risky, have become very popular. An example of this is Seachange, written for the ABC, which may never have been given a showing on a commercial TV station. There are also many examples of shows (especially comedies) that have become popular on the ABC and then moved to a commercial station. And it is now being recognised that even a preschool show such as Playschool, that many parents would consider to be quality Australian children’s television, can have lucrative merchandising spin-offs.
There is also the argument about minority interests who would miss out without encouragement for diverse programming, though to some extent the two public broadcasters in Australia, the ABC and SBS, cater for these.

Although these policies have cultural and social objectives they do have an economic impact. A further infant industry type argument is that a viable Australian industry is needed to meet cultural and social objectives, and that without content regulation the industry may not be able to sustain such a viable level of activity [PC 2000A, p.380]. Film and television production does however receive other assistance as well as content protection, in the form of government investment and production subsidies [PC, 2000 p.384].

5.7 Impact of protection

Data available on content quota compliance (from the ABA Annual Report, 2001-02, [ABA, 2002, Appendix 3]) for the period 2000-01 shows the overall local content quota of 55 per cent was over-met by broadcasters. The three commercial free-to-air networks achieved between 57 per cent and 62 per cent (on average, across metropolitan city stations) of broadcast time between 6am and 12 midnight. Only 6 hours of this was New Zealand content, suggesting that early fears that Australian television would be swamped with cheap New Zealand programs have not been realised. (There is of course the possibility that American programs may swamp Australia under an Australia/USA Free Trade Agreement, the terms of which are still to be approved.)

The first release Australian drama quotas were also over-met, with the Seven Network achieving a score of 359 points on average (against the quota of 225 points).
The Nine and Ten networks exceeded the quota by less, with averages of 263 points and 280 points respectively. All three networks just met the 20 hour documentary quota.

Each network met the overall C (children's programs) quota of 260 hours. Of these, 130 hours must be first release children's programs, including 32 hours of first release children’s drama. The networks each met the first release quota, Network Seven achieved 161 hours on average. Each network just met the first release drama quota, but met the repeat drama quota (of 8 hours) many times over. The P (preschool programs) quota was only just met by each network. [ABA, 2002, Appendix 3, p.98].

Apart from the sub quotas, the overall quota has been largely met with news, sport, current affairs and infotainment [PC 2000A p.395]. The fact that the overall quota is being over met suggests that it is not biting, and that viewer preferences for these programs determine programming choices. However, documentary, children's and preschool sub quotas were only just met, suggesting that content regulation was having an effect in this area.

Programs such as news and current affairs would still be likely to be made in Australia even without the local content requirement. The decision by commercial free-to-air networks to exceed the local content requirement may in fact be a commercial one. Judi Stack, the Chairman of The Federation of Commercial Television Stations (FACTS) said to a conference on Australian content standards held in March 2002:

“It is quite clear that we (FACTS) have a very strong commitment to Australian content and Australian programs. The primary reason for this commitment is that our audiences really like them ... the best measure for the commercial television sector is community response, which is
broadly measured in audience ratings ... Ultimately, our message is that the market does not require fixing. There is no failure of the market for the Australian commercial television industry, insofar as the objectives of the Act are concerned ... The hours of Australian programs on commercial television have increased over the years and continuously exceeded the standard's requirements.” [Harley, 2002, pp48-49].

At the same conference reference was made to Network Ten's decision in 1999 to increase the number of hours of Australian content in broadcast in prime time. This decision was “driven by market forces” [Andy McIntyre in Harley (ed), 2002, pp. 5]

It may be, however, that cheaper overseas infotainment programs would replace some infotainment type programs if the quota were removed. While these programs may have questionable value towards meeting social and cultural objectives of the policy, they probably have more value in this regard than an overseas replacement is likely to have [PC 2000A, p. 406].

The content quota for subscription television (10 per cent of expenditure) was voluntary until December 1999, and was not met. Subscription broadcasters must now meet the 10 per cent quota requirement as a condition of their licence [PC 2000A p.394].

Subscription television has the potential to offer niche alternatives for minority preferences prepared to pay for particular channels, thereby increasing the diversity available. For these reasons the Productivity Commission found that Australian content quotas were not appropriate or effective for subscription television, and recommended their removal [PC 2000A, p. 412].
As previously discussed, free to air television is available to 99 per cent of Australians and is assumed to be much more influential than subscription television, so it is free to air television on which content regulation is mainly focused [PC 2000A p.400]. As technology changes, and if other forms of media become more influential, then the focus and implementation of Australian content regulation will also need to change.

5.8 Transition to digital television

Digital television was introduced to Australia in 2001. The way it was introduced provided some inconsistencies with the spirit and application of the local content provisions in the television industry.

Features of the introduction of digital television include:

- Making provision of some high definition television mandatory
- Commercial stations were not allowed to multichannel
- Limits to amount of video that datacasters can show

The mandating of high definition television (HDTV) poses a number of problems for achieving the local content objective of diversity. HDTV is expensive to produce and requires more expensive and specialised equipment. It is more suited to the production of movies than sport and other cheaper-to-make infotainment type programs. Thus mandating HDTV potentially restricts the diversity of type of program that can be offered [PC 2000A, p.418].

Commercial stations have been banned from multichanneling during the transition to digital television, limiting the opportunities for simulcast of programs.
catering to different preferences. The mandating of HDTV will limit opportunities to multichannel in the future, as high definition television takes up a great deal more spectrum than standard definition television, leaving less spectrum available for multichannelling. Once again this works against diversity of choice and the ability to cater to more minority viewers.

The restrictions placed on datacasters\(^\text{19}\) effectively prevents them from broadcasting Australian dramas, documentaries and so on. Once again this is inconsistent with the spirit of the local content policy. As the Productivity Commission report put it:

“This will effectively prevent them (datacasters) from broadcasting traditional television programs and films including the categories identified in the BSA as culturally and socially valuable (namely Australian drama, documentaries and children’s programs). It is inconsistent that programs deemed essential (for their social and cultural value) on one form of broadcasting to be prohibited on another form.” [PC 2000A, p.393].

Current content regulation is specific to analogue technology. The introduction of digital television and changing technology means programs can be broadcast on platforms that do not fall under the current local content regulation (for example, the internet). Thus there will be a need to re-examine whether the current local content policy is meeting its social and cultural objectives, and also the extent and

\(^{19}\) In fact there are no datacasters currently operating. The government was unable to attract interest in datacasting licences and none were sold.
appropriateness of the economic assistance it provides. The Productivity Commission recommends that these issues will need to be addressed before analogue broadcasting ceases in 2009 [PC 2000A, p379]. In addition, if the free trade agreement with the United States of America comes into operation, the restrictions on applying local content requirements to future technologies will mean that current local content requirements cease to be effective with respect to American television imports.

A Bureau of Transport and Communications Economics paper suggests that either production subsidies or direct provision of programs may be more effective than quotas in ensuring that public good type programs are at least available to be consumed in this age of rapid technological change. None of these methods necessarily ensure the programs will actually be consumed [BTCE, 1997].

**5.9 Discussion and conclusions**

This case study has strengthened the conclusions that have arisen from the previous two case studies, that local content policies tend to result in a high amount of non-transparent protection for the industry concerned. They go hand in hand with other protective measures; often the costs associated with the local content requirement are used to justify other forms of protection. This is certainly the case in the television industry, with the costs of the local content scheme used to justify the restricted number of television licences issued. The results are that input and final good producers tend to recognise that their separate interests are best served by acting together to ensure that the overall package of protection remains in place. This is not generally in the interests of the wider public. In the television industry the restriction of licences has resulted in existing licences becoming very valuable, and the concentration of media power in the
hands of a few. In an industry such as the television industry this may have consequences for democracy itself.

In the television industry there are generally accepted public interest arguments for ensuring that there is reasonable quality Australian content being broadcast. This does not necessarily mean that the local content requirements are essential to achieve this. In most categories the quotas are not biting - it seems that the television stations are following sensible commercial decisions to broadcast the Australian content they do in any case. In these categories there is a form of natural protection. Television stations broadcast Australian news, sport and current affairs programs because audiences like them. Thus in these categories there is more local content than is required, and overall more than 55 per cent local content is achieved. However in some categories the local content requirement is only just met, suggesting it does affect programming decisions. These categories include adult and children’s drama, and preschool programs.

If there are positive externalities arising from broadcasting of local content then the market may under provide local content. In this case there may be justification for government intervention, particularly in the case of adult and children’s drama, and children’s and preschool programming in general (i.e. those categories that may be underprovided without the compulsion of the local content requirement). In the case of preschool programming, the free to air broadcasters are unable to broadcast advertisements, taking away their source of funding for these shows. In this case the negative externality associated with showing advertisements to very young children may justify government intervention to ensure these programs continue to be (a) shown, and (b) without ads. However this still leaves the question as to whether the local
content requirement is the best way to promote these objectives. Another option could be direct subsidies of these types of shows.

There remain the questions that arise from the High Court Blue Sky case – can any one make Australian content? If so, does this mean that the protection in place mainly results in economic rather than cultural benefits? If broadcasting Australian content is the best commercial decision for the broadcasters, and only Australian production facilities are able to meet that demand, then you would expect them to be viable without any further government assistance.

The definition of what constitutes Australian content and indeed Australian culture can be problematic, and the current system does not necessarily promote the degree of diversity that an internationally sophisticated, broad-minded society may wish for. *Neighbours* may be Australian, but it only represents a part of the Australian culture.

In addition, the local content requirement has been used to justify assistance to the industry that is very much out of proportion to the effects of the higher costs of local production. This extra assistance includes restrictions on entry and ownership, resulting in television licences becoming extremely valuable. This has resulted in powerful vested interests, and what the Productivity Commission has labelled as a series of “quid pro quos” [P.C. 2000A] resulting in an introduction of digital television that could be argued to not best serve consumer interests. Once again the local content requirement has interacted within the industry to result in an outcome that suits the industry, is not at all transparent, the benefits of which are very hard to measure, and the costs of which fall on the consumer.
Thus it can be concluded that the operation of the local content scheme in the television industry is problematic. It has been protective of the local industry, but not necessarily effective in meeting the stated justifications for that protection, i.e. the promotion of local culture and identity. In some categories of television show there may simply be no need for a local content requirement, for the others there is a question mark over whether only shows under local creative control can meet the objectives of promoting local culture. The scheme may not be meeting the objectives of promoting diversity very well either. Shows such as *Neighbours* and *Home and Away* arguably show only a small part of Australian culture. First release drama quotas are only just filled, and the resulting dramas are then often repeated, again restricting diversity on our screens.

In addition, although at present the television industry is quarantined from negotiations under the GATS, in the future, as with the other industries studied in this thesis, this stance may be hard to maintain.

Finally, changing technology is likely to render the local content scheme irrelevant. Although the government had sought to quarantine the local content scheme from negotiations for a free trade agreement with the United States of America in the end the scheme has been included, and if the agreement is passed it will restrict Australia’s ability to impose local content restrictions on imports of America television shows made with new technologies.

Thus further work is needed to examine how better to meet the objectives of promoting cultural pride and identity, and taking into account any positive externalities associated with local programming. Options could include production subsidies or
direct provision of culturally significant and diverse shows. Issues to be examined
would include the difficulty of "picking winners", as simply ensuring these programs
are available to be watched does not necessarily mean that they will hit a chord with
viewers. In addition the current policies of mandating high definition digital television
and the restricting of multichannelling need to be reviewed, as both of these policies
work against objectives of diversity.
CHAPTER 6: OTHER APPLICATIONS OF THE THEORY: GOVERNMENT PROCUREMENT, OFFSETS AND RULES OF ORIGIN

6.1 Introduction

The theory developed in this thesis can be applied to other areas. The issue of local content has often been used explicitly in government procurement, especially in major contracts. The Australian government is not a signatory to the WTO agreement on government procurement, and has no intention of signing. Preference margins and local content policies are still used by some state governments [PC 2002C].

Local content policy in government procurement can take different forms. For example, often an overseas producer, who has won a high value contract to supply goods or services to the Australian government, will have to agree to a contractual obligation to undertake work to a certain value in Australia. This is called offsets, and has typically been used a great deal in Defence contracts. The work to be undertaken in Australia is usually related to the contract, but not necessarily, as will be seen. Externality type arguments have often been used as a justification for insisting on offsets in major defence procurement contracts. These rules have been justified on the grounds of maintaining strategic defence capability in Australia, and assisting in high technology transfer to defence production in Australia. However, it is questionable whether the policy has met these objectives. This will be discussed further below.
Moving into the international arena, rules of origin (ROOs) are increasingly important in the operation of free trade areas (FTA). If bilateral trade arrangements allow duty free entry of imports from a particular country (that may have lower external tariffs than its free trade agreement partner), then rules of origin are applied to ensure that the good allowed in duty free has not merely passed through that country from a country that is outside the free trade agreement. Rules of origin work in a similar way to local content schemes, in that they provide protection for the local input producers in the free trade area. Further than this, they often work to “export” protection from the country within the free trade area that has more highly protected input producers, to the less protected country [Krueger, 1992, p.7]. In addition, rules of origin tend to be extraordinarily complex and difficult to define in practice, with a great deal of resources expended on negotiating, applying and administering them.

This chapter provides a brief overview of these areas of extension to the theory and application of local content policy discussed in the previous three case studies. It notes similarities in issues that arise from the application of local content policy in government procurement, or rules of origin to free trade areas, and also areas where this work could be extended.

6.2 Government procurement

As mentioned in Chapter 2, all government contracts over a certain value have had to be analysed for Australian content in the past, and preference has been given to goods that have a higher level of Australian content. More recently individual states have started to give preference to local state based production, as well as providing incentives for new ventures to start up in a particular state.
Government purchasing provides support to the automotive industry in Australia, as Commonwealth fleet vehicles must be made in Australia (with a few exceptions). State governments are also providing preference to Australian made vehicles [PC 2002B, p.95]. Sales of large model cars to fleet customers (private as well as government) make up about three-quarters of domestic sales [PC 2002B]. These arrangements have not been changed by the government’s December announcement of continuing assistance to the automotive industry. Again the automotive industry is being given special assistance over and above that available to other industries. Once again, this is a form of assistance to the industry that is non-transparent and difficult to measure, paid for by taxpayers.

6.3 Offsets

Offsets are a contractual obligation on the part of an overseas supplier of expensive and high technology equipment to ensure some of the work is carried out in Australia. Offsets are used in the Defence industry with the aim of contributing to defence capability and self-reliance. They are seen as a way of transferring cutting edge technology to Australia and enhancing our capability to maintain our high technology equipment.

An example of an Australian purchase of high technology equipment was the F/A 18 “Hornet” fighter aeroplane project. Assembly and testing of their General Electric F404 engines was carried out in Australia as part of the contractor’s offset commitments. In addition, the canopies were manufactured in Australia.

It is questionable how much these activities contributed to Australia’s goal of self-reliance and high technology transfer. In the case of the General Electric engines,
being able to assemble and test them could be said to contribute to self-reliance. However the engine is only one part of the aeroplane [Gammon, 1991].

In addition it has been found that often the technology that is transferred is not the most “cutting edge”, and if it is it is often transferred as propriety information that cannot be then passed on [Joint Committee, 1987, p.122]. This was the case with the manufacturing of the canopies; it was carried out using secret designs by specially authorised people [Gammon, 1991, p.8]. This limits any technology transfer benefits of the offsets program.

Finally, the program recognises that it may be impractical for all the offsets obligations to be met with work directly related to the project, so credit for unrelated work is sometimes allowed. This should be of the same level of technology; in practice the manufacturer of the F/A 18 aeroplanes was allowed credit for the export of lollipops to major US Navy and Marine Corps establishments! [Gammon, 1991, p.8].

Offsets obligations are not supposed to add to equipment prices, however it is extremely unlikely that this is the case [Joint Committee, 1987, p.130]. If the offsets activities had been cost effective in the first place, there would be no need to stipulate them in the contract. Once again this is a type of local preference, designed to meet non-economic goals, for which it is very difficult to measure the costs to taxpayers and the success in meeting its own goals. My paper ‘Review of the Australian Defence Offsets Trade Policy’ discusses other case studies with similar conclusions [Gammon, 1991].
6.4 Rules of origin: an international example of a local content scheme

6.4.1 Introduction

Discussion of the effects of rules of origin within free trade agreements is timely in Australia in light of negotiations currently taking place towards a possible free trade agreement with the United States of America (USA). These negotiations are taking place in a world environment where an increasing amount of the world’s trade occurs within regional trade agreements (RTAs). Philippe Legrain, writing in the Australian Financial Review Weekend of 10-11 November 2001, noted “Three fifths of world trade takes place on preferential terms. More than 170 RTAs are in force around the world.” In addition, the growth of multinational companies and changes in production processes has resulted in growth in the trade of intermediate inputs [Lloyd, 1993, p. 699 and Bourgeois, Vermulst and Waer (Eds) p.410]. This has the effect of complicating the establishment of ‘origin’ of final goods.

Under a free trade agreement, the participating countries keep their pre-existing tariffs against other countries, but trade freely amongst themselves. Without rules of origin, this arrangement could lower the level of protection afforded industries in the country that has higher protective barriers. Goods (and services) could enter the country that has lower tariff (or tariff equivalent) levels, and then pass freely to the more protected country. In this way, a free trade agreement without rules of origin would operate more like a customs union (in which the parties trade freely amongst themselves and maintain a common external tariff) [Krueger, 1992].
In order to prevent the erosion of external barriers to countries that are outside the free trade agreement, rules of origin must be put into place. The intention is to ensure that goods that enjoy duty free transit from one partner country of the free trade agreement to another have ‘substantially’ originated in a member country. In this way the rule of origin is intended to serve an administrative function, ensuring that it is only member countries that enjoy the benefits of the free trade arrangements, and external barriers to non-member countries are maintained. Because the member countries do not change their external tariffs in relation to the rest of the world and free up trade between themselves, free trade agreements have often been seen as trade creating and therefore good for economic welfare.

In practice, however, rules of origin may actually allow a member of a free trade agreement (FTA) with high external tariffs to “export” its protection to other members who have lower external tariffs. Rules of origin may thus be used to divert trade to members of the FTA, and away from the rest of the world [Krueger, 1992]. In addition, defining what is meant by ‘substantially originated’ is fraught with difficulties, with the actual definition used potentially distorting the flow of trade, and manufacturing processes. Negotiations involved in defining the rules of origin to apply to a new free trade arrangement can become complex and protracted. For example, Krueger mentions in her 1992 paper that the draft of the North American Free Trade Agreement (NAFTA) at the time of her writing (September 6, 1992) included a chapter on ROOs that was 193 pages long [Krueger, 1992, p.8]. This process involves the use of economic resources in an otherwise unproductive process.

Having to provide appropriate proof of origin places administrative burdens on manufacturers, also resulting in the waste of resources. Krueger reports that some
producers in the European Free Trade Area “appear willing to pay duties averaging at six per cent of price in order to avoid the paperwork needed to establish origin” [Krueger, 1992, p.6].

**6.4.2 Defining Rules of Origin**

Chapter 2 discussed some of the problems associated with defining what can be included as ‘local’ content. As mentioned above, there are also significant problems associated with defining the origin of any good.

There are a number of different options. A seemingly simple option may be to assign a good to the country in which it changes its tariff heading. The North American Free Trade Area (NAFTA) agreement uses this definition, with added requirements for some goods that they must also have a certain percentage of value added within the NAFTA (for example, 62.5 per cent of the net cost for automobiles and parts [Lloyd, 1993 p.702]. In practice, the change of tariff classification rule has proven difficult to interpret, and inconsistent in its application, in that for some commodities, relatively little has to be done to them to change their tariff classification [Bourgeois, Vermulst and Waer (Eds), 1994, p. 404].

Australia uses a value added type rule in its Closer Economic Relations (CER) agreement with New Zealand. Australia’s rules of origin state that goods shall be counted as having their origin where they are:

- wholly produced or manufactured,
- partly manufactured, as long as the last process of manufacture that substantially transformed the good was performed in that country, and at least 50 per cent of the factory costs of the good should be on materials,
labour, factory overheads and inner containers that originate in that country. [ANZCER Trade Agreement, Article 3].

Manufacturers self-assess the level of content in their product, and sign a declaration that their goods meet the preference requirement. There are penalties for false declarations, and the Customs Service can sue for any duty payable. [Bourgeois, Vermulst and Waer (Eds), 1994, p.216].

Value added rules of origin can become very complicated, especially if they include profits – the problem arises of establishing the origin of the company’s owners. In addition, it is easier for a country with high labour costs to meet a value-added ROO. Thus a value-added ROO may be biased against developing countries, whose comparative advantage may be cheap labour.

6.4.3 ROO and the World Trade Organization

Historically rules of origin did not appear in the General Agreement on Tariffs and Trade (GATT). It is a document of non-discrimination, and if there is to be no discrimination between countries, then there is no need to establish the origin of any goods entering a country (except for purposes of recording trade flows for statistical records [Bourgeois, Vermulst and Waer (Eds), 1994 p. 403]).

However issues of origin became increasingly important during the 1980s, particularly with an increase in anti-dumping disputes. Attempts to harmonise ROOs lead to the establishment of ‘Principles governing the application of rules of origin’ during the Uruguay round of trade negotiations that was concluded in 1994, although the negotiation of an actual agreement was left until after the conclusion of the round [WTO, 2001].
The set of principles for harmonising ROOs are intended to make ROOs more transparent and reduce uncertainties for traders, and also to try and restrict their use as a form of protection. The principles and subsequent Agreement on Rules of Origin (to be annexed to, and therefore become a part of, GATT 1994) only apply to non preferential trade (i.e. not to ROOs in FTAs or preferential agreements with LDCs), however a “Common Declaration” at the end of the Agreement states that the principles of the Agreement should also apply to preferential ROOs [WTO, 2001].

These principles state that “contracting parties (are) expected to ensure that their rules of origin are transparent; that they do not have restricting, distorting or disruptive effects on international trade; that they are administered in a consistent, uniform, impartial and reasonable manner, and that they are based on a positive standard (in other words, they should state what does confer origin rather than what does not).” [WTO, 2002].

6.4.4 Krueger’s USA/Mexico example

Consider a FTA between two countries, for example the United States of America (USA) and Mexico. Under the FTA, rules of origin are used to prevent imports entering the country with the lowest external tariff, for example Mexico, and then passing freely to the country with the higher external tariff, for example the USA. If this were allowed to happen, the USA’s protection policies would be circumvented. Thus for a good to be able to pass duty free between FTA member countries, a certain percentage of it must have originated from a FTA country. If a commodity does not pass the rule of origin, duty must be paid on it at the importing country’s normal external rate.
Rules of origin can vary. They can specify that a certain percentage of value must be added to the good in a FTA member country, or they can specify that certain percentage of components be from a member of the FTA. Thus a rule of origin, like a local content requirement, can be expressed in either value or volume terms.

Krueger uses an example to show the implications of this. Consider Mexico, which builds cars for export to the USA. Before the FTA is in place Mexico imports the components from the rest of the world duty free and assembles them. The USA has a 50 per cent tariff on imported cars from any source. After the FTA has been formed, Mexican producers have two choices. They could still buy their components from the rest of the world, thus failing the rule of origin, and be subject to the USA’s 50 per cent external tariff. Or they could now source enough of their components from a FTA country, for example the USA, to meet the rule of origin. Mexican cars would then be able to enter the USA duty free. Although Mexican car producers have to pay more for their intermediate goods, they have received protection in the USA market. This may be the profit maximising way to go. Thus the USA has effectively “exported” its protection to Mexico, and diverted trade away from Mexico’s traditional component sources [Krueger, 1992].

Thus rules of origin have similar effects to local content schemes in that they try to ensure a certain proportion of market share for “locally” produced inputs (i.e. within the FTA). These schemes have implications for world trade and welfare.

6.4.5 Other applications of Rules of Origin

Rules of origin have applications other than in FTAs and customs unions. They are used in preferential trading arrangements, by which a developed country such as
Australia may offer tariff free access to her markets to developing countries (DCs). Australia currently offers preferential access to specified developing countries, as well as South Pacific island territories (see PC 2002A for a listing).

Once again, the definition of origin becomes important. For example, if the definition biases towards manufacturing, it may exclude the very goods the DC is more likely to export/have a comparative advantage in (for example agricultural production). If the bias is against labour intensive processes (for example assembly of goods) then it limits the opportunities for the DC to learn manufacturing by starting with assembly. Ivan Kingston gives further examples in his chapter in Bourgeois et al (1994).

To gain preferential access to Australia under Australia’s preferential trading agreements, a good’s origin is determined to be where it was;

- “wholly produced or manufactured; or

- substantially transformed if more than one country was involved in its production.

A substantially transformed good must:

- have had its last process of manufacture\(^{20}\) performed in the country claiming origin; and

- at least 50 per cent of the cost of the good must be local content incurred within the qualifying area of the scheme.” [PC 2002A, pp24-25].

Australia is included in the qualifying area, once again providing some protection for Australian inputs to goods produced in DCs; in the same way the local

\(^{20}\) This does not include simply labelling or packaging, or repairing, overhauling or refurbishing [PC, 2002A, p.25].
content schemes within Australian industries work. It is a curious result that a policy designed to assist DCs may also provide protection for Australian industry!

Rules of Origin are also used to implement anti-dumping duties, for the purposes of labelling goods (i.e. “made in Australia”) and for the collection of trade statistics.

6.5 Discussion and conclusions

This brief look at other applications of local content preference has reinforced the key finding of this thesis, viz, local content preference is non-transparent, costly to administer and enforce, and difficult to define. It is difficult also to assess whether the goals that were the reasons for the introduction of the policy are being met, and in a cost effective manner, bearing in mind that they result in a social wastage of resources in rent seeking behaviour.

They are distorting, and prolonged application has often resulted in increased political power of the protected industry, which allows it to lobby more effectively for continued assistance and – should that become untenable (for example because of new WTO obligations) – generous adjustment compensation. They have also shielded industries from international competition, allowing them to stagnate and slip further behind world’s best practice.

Their application as rules of origin in preferential trading agreements with developing countries can have perverse effects, making the agreements less beneficial to the countries they are trying to assist. They can export protection from more highly protected countries within free trading agreements and divert trade away from countries outside the agreement.
CHAPTER 7: SUMMARY AND POLICY

IMPLICATIONS

7.1 Summary of findings

In each of the industries studied in this thesis, local content rules have provided high levels of assistance to the industry in a way that is hidden and difficult to measure. The development of entrenched and powerful vested interests in each industry has resulted in resources being used for lobbying for continued protection, at the expense of consumers and producers in other, less protected industries.

The industries have been protected from the winds of international competition in a way that has caused them to fall behind world’s best practice, and subsequently have had difficulty in adjusting to changing conditions, in particular to the removal of protection as protection levels have declined in other industries.

As the industries have felt adjustment costs, each has called for more assistance, either a pause in tariff reduction (the automotive industry) or in the form of adjustment assistance (as in the tobacco industry). In the television industry reviews of the local content scheme by the Australian Broadcasting Authority have tended to result in an increase in the local content quotas.

The presence of the local content scheme and the extra costs it has imposed on final good manufacturers has often been used as justification for compensating protection for the latter as well, again increasing costs to consumers and society.

A static comparison with a simple tariff may suggest that a local content scheme may involve less economic cost if the objective is to achieve a particular percentage of
local content. However this result is less clear in a dynamic setting. The experience of the industries studied showed that the costs of local content protection are likely to increase greatly over time. This is particularly the case if the world price of the input is falling (as happened in the tobacco and automotive industry). Once dynamic efficiency gains are taken into account, any case for a local content scheme looks even shakier.

Where there are externalities present (particularly in the television industry), a local content scheme may be one way of dealing with the externality. However, the costs of the schemes must be made clear and weighed against the benefits, along with an examination of other methods of addressing the externality.

In the case of the tobacco industry, the negative externalities associated with smoking may mean that any increase in the price of the final good, cigarettes, may not be a cause for concern. Indeed it may be insignificant compared to the price increases imposed by excise taxes on cigarettes that are designed to make the price of cigarettes more accurately reflect the social cost of smoking. However it was seen that these vested interests (leaf growers and manufacturers) were able to act together to undertake public lobbying aimed at achieving a more desirable outcome for themselves. The local content policy successfully muddied the waters so that different types of objectives were packaged together. The one that may be more politically palatable, i.e. safeguarding the livelihoods of farmers who have lived for generations on the land, was used as the bandwagon to protect other interests that may be less politically popular. These could include smoking and advertising restrictions on the cigarette industry and minimising the application of further excises.

As cigarettes are a traded commodity, final good prices in Australia will only increase if final good producers are given protection to compensate them for the increase in price of the input due to the local content policy.
Farmers about to lose their land and livelihoods do elicit public sympathy, as we have seen in the case of the tobacco industry, and also in the dairy and sugar industries. Because these industries built up a powerful lobby base, they were able to secure industry adjustment packages over and above those available to other farmers. In the tobacco industry the local content scheme helped to secure this powerful lobby base. Political parties are also often sensitive to regionally concentrated rural issues – in the 1999 Victorian State election, for example, the rural vote was seen as the key to the Brack’s government’s unexpected victory.

Riding on the bandwagon of tobacco farmer’s livelihoods, the cigarette manufacturers quietly supported the local content scheme. Going against the governments stated interests in this regard might have resulted in unwanted action on other fronts, for example banning of advertising for cigarettes and smoking in public places. Yet when the tide of public opinion finally turned away from cigarette manufacturers, and at the same time reductions in protection and increasing awareness of international obligations made the end of the local content scheme inevitable, tobacco growers were able to secure a more generous adjustment package than generally available to other rural sectors facing adjustment.

In the automotive industry, once again the local content scheme was seen to be a part of the overall protection package, along with other measures such as export facilitation. The concept of an ‘Australian car’ has long been a powerful and emotive issue, used again and again to win generous assistance packages over and above those available to other industries. This is despite the very clear disadvantages to the public of the package of protection, including that given to the final good producers, with the price of cars being higher as a result. These higher prices have resulted in a dead weight
loss of social welfare falling both on households buying cars and on industries that use cars as an input into their production.

As in the tobacco industry, there were dynamic effects in the automotive industry, with manufacturers protected from the necessity to move forward in accordance with world’s best practice. This resulted in dynamic inefficiencies that became harder to overcome once the reality of increasing openness caught up with the manufacturers.

In the automotive industry, the higher cost of cars under the protective regime tended to mean that people held on to their cars longer, resulting in negative externalities from older cars being on the road, including increased pollution emissions and different safety standards.

In addition, local content schemes (and the export facilitation scheme discussed in Chapter 4) have become untenable under new WTO rules established in 1995.

Similar results can be found in the television industry. Generally accepted public interest arguments for ensuring that there is reasonable quality Australian content being broadcast, and also arguments about the public good nature of television, may mean there is a case for government intervention in the industry. However it is not clear that the local content scheme is the best form of intervention, particularly in the face of changing technology. The costs of the scheme are difficult to measure, and the success of the scheme in meeting its stated aims is difficult to gauge.

Some types of television shows seem to have a form of natural protection which means they would likely be provided as a result of normal commercial judgement, without the compulsion of the local content scheme. Other types of programs may not
be provided at the socially optimal level without some form of government assistance. It is not clear that local creative control is the only way to provide these shows, nor is it clear that local provision meets all the objectives of cultural identity and diversity. Changing technology may render the existing scheme either ineffectual, or highly discriminating in its application to different broadcasting platforms.

In addition, public interest arguments have been used over and over again to justify a huge range of protection, resulting in powerful and vested interests. The risks to the political process of powerful interests in the media may well outweigh the risks to Australian culture and sense of identity associated with less local production.

Although the broadcasting industry is currently being quarantined by the government from international consideration under the GATS, this stance may become untenable in future rounds of negotiations.

Internationally, rules of origin are becoming an increasingly important form of protection. They can be extremely costly to administer and non-transparent in their results. Rules of origin within free trade agreements can export protection from the more highly protected partners, and divert trade away from countries outside the agreement. This can impose significant economic costs. Within preferential trading arrangements with less developed countries their results can be perverse. They may offer more advantage to the developed country than the country the preferential arrangement is intended to assist.

7.2 Implications for policies in Australia and other countries

The local content policies in the automotive and tobacco industries have been discontinued, however the lessons learnt from this study of their effects can still be
applied to policy formation in Australia. A very clear implication from this research is the need for any type of protection to be transparent and regularly assessed for its impact on the industry and consumers, and more generally on society.

Public education about the costs of protection, in particular to consumers, has allowed a general reduction in the protectionist culture in Australia, allowing reduction of trade barriers. However there are exceptions to this general rule, and these exceptions apply particularly to industries that have been able to appeal to a sense of national pride and identity. Dr Samuel Johnson once said, “Patriotism is the last refuge of a scoundrel”, and as far as the industries studied in this thesis are concerned, this certainly could be said to be the case. Tobacco growers have appealed to the “living off the land” part of the Australian psyche, and car manufacturers to the “Australian car” part of our identity. Television broadcasters appeal again and again to our sense of patriotism and desire to promote local culture and identity. These appeals to patriotism have helped maintain local content schemes that provide direct protection, as well as indirect justification for other forms of protection. These other forms of protection (for example restricted licenses in the television industry) have often provided the industry with high levels of wealth and power.

The local content scheme in the television industry will need to be reviewed, as changing technologies together with new obligations under the free trade agreement with the USA (should it be passed) will mean that current local content arrangements will cease to be effective. To the extent that there is a need to address issues of market failure and public good provision in the television industry, other methods will require further assessment. It is not clear that the benefits the local content policy provides, in terms of promoting national pride and cultural identity, are achieved in the most cost
effective manner. In addition, the concentration of power in the hands of existing television licence holders could be seen to be a cause for some concern, given the possibly large influence the television industry may have on setting the political agenda.

Further examination of the use of production subsidies and/or direct provision of culturally significant programs is warranted, to establish whether either method would more effectively address the under-provision of some types of program in the absence of a local content scheme. These programs would include local dramas and public or merit good programs such as children’s drama or preschool type programs. The costs of raising production subsidies would have to be taken into account, but they have the advantage of being more transparent. By being clear about why certain programs receive public funding, there may also be a public service performed by taking that “last refuge of a scoundrel”, patriotism, out of the protectionist arguments. A clearer debate about what constitutes national identity and cultural significance may also be possible.

This thesis has shown many unintended consequences resulting from the application of local content policies to Australian industries, and also from the application of local preference internationally under rules of origin. These lessons can be applied to other countries that still have local content schemes operating in their industries, and also to decisions regarding future local content policy in the television industry.

Where local content and/or export facilitation schemes apply in other countries there is a case for a re-examination by those countries of the costs of this type of protection and the benefits of removing it. This is one major area for further research.
There are other areas of research that arise from this study of local content schemes in Australia. These include:

- More work on measures of assistance to the television industry as it is currently very difficult to gauge the full impact of the array of assistance measures on it.
- Other ways of dealing with the externality and public good aspects of the television industry need to be examined.
- The effectiveness of the scheme in achieving its stated goals could be more thoroughly measured.
- Public discussion on the nature of Australian culture and the Australian identity, and ways of preserving it without increasing some of the more unfortunate aspects of nationalism and xenophobia, could be undertaken.
- State and federal government procurement and offsets policies could be assessed more thoroughly to make their economic costs more explicit.
- And finally, with the increase in the importance of preferential trading arrangements in world trade, there is more work to be done to more fully assess and make public the costs associated with the application of rules of origin within these agreements.

This thesis has attempted to make clear the unanticipated and often perverse effects that local content schemes have had on the industries involved. It has highlighted the schemes' lack of transparency, the high levels of protection they have resulted in, consequent wastage of resources and high costs to other areas of the economy. It has also highlighted the schemes' influence on the industries' structure and power in
negotiating for further protection. It has examined international implications arising from the illegality of local content schemes under the World Trade Organization. Finally it has applied insights gained to the increasingly important area of rules of origin applied to preferential trade agreements, pointing the way to areas where further research is needed.
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