CULTURAL REGULATION OF
AUSTRALIAN TELEVISION
PROGRAMS

Francesco Giovanni Papandrea

A thesis submitted for the degree of Doctor of Philosophy of
The Australian National University
August 1996
All the material contained in this thesis, with the exception of the material contained in Appendix IV, is my own original work and has not been submitted for any other degree.

F. G. Papandrea
ACKNOWLEDGMENTS

The past three years have brought me into contact with many people without whose assistance, guidance and advice my research and preparation of this thesis would have been difficult to endure. I owe much gratitude to many people and it is gives me great pleasure to be able to acknowledge their generosity. While my words gladly express my heartfelt gratitude, they are of insignificant value when compared with the assistance I received.

I am particularly grateful to Dr Maurice Haddad, former Director of the Bureau of Transport and Communications Economics (BTCE), for the encouragement and support that were instrumental to my enrolment in PhD studies. I benefited directly from his visionary initiative that enabled me to combine into a single project my university research requirements with those of the Bureau. I am also grateful to the Bureau for its generous financing of the contingent valuation survey conducted for this study, the acquisition of audience ratings data and the publication of the survey results as a Bureau occasional paper. I appreciate the opportunities I had to expose some of my ideas and early research findings in seminars at the Bureau and in papers delivered at the Bureau’s annual Communications Research Forum.

The relationship between students and academic supervisors is a topic of frequent discussion among PhD students. Discussions about difficult or unsatisfactory relationships abound. I was often left perplexed by such discussions because all my experiences have been pleasant, enjoyable and extremely fruitful. I am tempted to think that my astral conjunctions over the past three years were very favourable because I was endowed with not one, but two, excellent supervisors. Both Dr Raja Junankar of the Graduate Program in Public Policy and Dr Robert Albon of the Economics Department in the Faculties have challenged and encouraged me, and have been fine guides when my efforts needed to be redirected. Not only have they taught me many lessons and generously made themselves accessible despite their many commitments, but also, in their unique ways, have extended me friendships that I hope will endure in the years ahead.

I am grateful to the Australian Broadcasting Authority and the many officers of the Authority with whom I have come into contact in the course of my research. Gareth Grainger, Lesley Osborne, Nick Herd, Linda Sheldon, Deborah Sims and all the other officers of the Authority who responded generously and promptly to my many queries and requests for data. I am also similarly grateful to Rosemary Curtis of the Australian Film Commission. Others to whom I owe thanks include, Theo Neumann of the Australian Bureau of Statistics (Adelaide) for his advice and assistance with the development of the survey questionnaire, Kate Aisbett of the Australian Film Television and Radio School, Stuart McFadyen from the University of Alberta and Visiting Fellow at the BTCE in 1995, Bev Weeks of the BTCE and my many other colleagues at the BTCE and the Graduate Program in Public Policy at the Australian National University. Heartfelt thanks are also due to Jen StClair and Margaret Weeden for cheerfully undertaking the laborious task of proofreading, to Maureen Wright for helpful editorial
suggestions and to Alison Gniel for her rescuing hand on the many occasions the computer system obstinately refused to respond to my inexpert commands.

I owe my greatest debt to two very special people in my life, Anna and Francesca, for their unquestioning love and unbounded support even when the commitment to my studies infringed upon my obligations as husband and father. I was blessed with unwavering affection despite the many stresses they undeservedly endured as a result of my insufficient attention to their needs. I am indeed fortunate that they were always there for me. I can find no words that would adequately convey my immense gratitude to them.
ABSTRACT

This thesis uses standard welfare economic analysis to evaluate the effectiveness and efficiency of the Australian domestic content regulation of television programs. Broadly, the thesis outlines the economics of television programming, develops the theoretical framework for the examination of regulatory instruments and their justification, and uses cost-benefit analysis methods to assess the performance of the regulatory instruments.

As part of the examination of market failure, the thesis develops a model to illustrate the incidence of bias in the programming decisions of commercial broadcasters. The model builds on and extends the work of other researchers. The stated aims of the regulatory instruments are used as the benchmark for the assessment of their effectiveness by examining the extent to which compliance with the regulatory requirements affects the market behaviour of television operators. The benefits generated by the regulation are estimated with a contingent valuation survey of the community's willingness to pay for Australian content of television programs. The efficiency analysis also includes an examination of the relative competitiveness of domestic and imported programming, and the costs associated with each element of the regulation.

The analysis demonstrates that, while some elements of the current Australian content regulation are having a substantial influence on the behaviour of commercial operators, other elements have little effect. The transmission quota is the element of the regulation with the least impact. More substantial effects flow from the drama requirements for both adults and children. The regulation, however, has proved ineffective in encouraging stations to broadcast higher quality (higher cost) drama.

The study also found that a large majority of Australians considers the value of the benefits accruing from the current level of domestic television programming to be at least commensurate with the cost of supplying the programming. While the current level of Australian programming is widely supported, its current composition is not. Thus the results suggest that the benefits from the regulation could be increased by the provision of a different mix of domestic programming. The most desirable shift appears to be one involving increases in documentaries and children's programs, and commensurate decreases in other programs. Taking account of the likely erosion of the current quota mechanisms by the expected large expansion of electronic information and communication services, the study suggests that a move from quotas to production subsidies or direct provision of socially valuable programs may be appropriate.
# CONTENTS

<table>
<thead>
<tr>
<th>ACKNOWLEDGMENTS</th>
<th>iii</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>iv</td>
</tr>
</tbody>
</table>

## CHAPTER 1: INTRODUCTION

- Related Issues 1
- Significance of the Study 3
- Analytical Framework 4
- Structure of the Thesis 5

## CHAPTER 2: ECONOMIC FUNCTION OF COMMERCIAL TELEVISION PROGRAMMING

- Introduction 7
- General features 7
- Programming 8
- Value of Programs to Viewers 9
- Standard Approach to Analysis of Demand 10
- Broadcasters and Program Choice 13
- Source of Programs 15
- Industry Regulation 17
- Reaction to regulation 18
- Technological Change 18
- Conclusion 20

## CHAPTER 3: MODEL OF BIAS AND MARKET FAILURE IN TELEVISION PROGRAMMING

- Introduction 21
- Review of Program Choice models 21
- Modelling Program choice 25
- Parameters of the Model 29
- Price Competition Case 30
- Non-Price Competition Case 31
- Welfare Comparisons 33
- Choice Between Programs 33
- Incorporating Externalities 38
- Choice Between Domestic and Imported Programs 39
- Tariffs and Subsidies 42
- Conclusion 44
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Domestic Content Regulation of Television Programs</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>Introduction</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>Brief History of the Regulation</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>Current Regulatory Provisions</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>Objectives of the Regulation</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>Rationale for Domestic Content Regulation</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>External Benefits</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>Merit Goods</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>Formation of Tastes</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>Competition Failure</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>Existence Value and Option Demand</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>Innovation and Risk</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>Employment Opportunities for Creative People</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>Conclusion</td>
<td>59</td>
</tr>
<tr>
<td>5</td>
<td>Effectiveness of Australian Content Regulation</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Introduction</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>The Pre-1990s Provisions</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td>1990 and Beyond</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>Prospective Effects of 1995 Amendments</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>Effects on Industry Development and Employment</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>Conclusion</td>
<td>81</td>
</tr>
<tr>
<td>6</td>
<td>Measurement of Community Benefits</td>
<td>82</td>
</tr>
<tr>
<td></td>
<td>Introduction</td>
<td>82</td>
</tr>
<tr>
<td></td>
<td>Benefits and their Measurement</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>Theoretical Underpinnings of Contingent Valuation</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>Contingent Valuation Procedure</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>Appropriate Valuation Measure</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>Validity of Contingent Valuation Method</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>Bias</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>The Valuation Survey</td>
<td>91</td>
</tr>
<tr>
<td></td>
<td>Development of the Survey Questionnaire</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>Strategic Bias</td>
<td>95</td>
</tr>
<tr>
<td></td>
<td>The Questions</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>Conclusion</td>
<td>99</td>
</tr>
<tr>
<td>7</td>
<td>Analysis of Survey</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Introduction</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>General Findings</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Modelling of Preferences</td>
<td>103</td>
</tr>
<tr>
<td></td>
<td>Valuation of Benefits</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>Estimated Value of Australian Content</td>
<td>112</td>
</tr>
<tr>
<td>Chapter</td>
<td>Title</td>
<td>Pages</td>
</tr>
<tr>
<td>---------</td>
<td>-------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td></td>
<td>Demand for Increases in Australian Programs</td>
<td>114</td>
</tr>
<tr>
<td></td>
<td>Strategic Bias</td>
<td>119</td>
</tr>
<tr>
<td></td>
<td>Distribution of Expenditure on Australian Programming</td>
<td>121</td>
</tr>
<tr>
<td></td>
<td>Conclusion</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>CHAPTER 8 RELATIVE PROFITABILITY OF DOMESTIC AND IMPORTED TELEVISION PROGRAMS</td>
<td>127</td>
</tr>
<tr>
<td></td>
<td>Introduction</td>
<td>127</td>
</tr>
<tr>
<td></td>
<td>Audiences of Domestic and Imported Programs</td>
<td>127</td>
</tr>
<tr>
<td></td>
<td>Program Choice</td>
<td>130</td>
</tr>
<tr>
<td></td>
<td>Relative Profitability of Domestic and Imported Programs</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>Rate of Success of New Programs</td>
<td>137</td>
</tr>
<tr>
<td></td>
<td>Risk and Prediction of Audience Appeal</td>
<td>139</td>
</tr>
<tr>
<td></td>
<td>Conclusion</td>
<td>142</td>
</tr>
<tr>
<td></td>
<td>CHAPTER 9 IMPACT AND EFFICIENCY OF THE REGULATION</td>
<td>143</td>
</tr>
<tr>
<td></td>
<td>Introduction</td>
<td>143</td>
</tr>
<tr>
<td></td>
<td>Impact of the Regulation</td>
<td>144</td>
</tr>
<tr>
<td></td>
<td>Employment Effects</td>
<td>153</td>
</tr>
<tr>
<td></td>
<td>Regulatory Definition of ‘Australian’</td>
<td>154</td>
</tr>
<tr>
<td></td>
<td>Other Impacts</td>
<td>155</td>
</tr>
<tr>
<td></td>
<td>Gainers and Losers</td>
<td>156</td>
</tr>
<tr>
<td></td>
<td>Efficiency of the Regulation</td>
<td>158</td>
</tr>
<tr>
<td></td>
<td>Conclusion</td>
<td>161</td>
</tr>
<tr>
<td></td>
<td>CHAPTER 10 CONCLUSIONS</td>
<td>162</td>
</tr>
<tr>
<td></td>
<td>Introduction</td>
<td>162</td>
</tr>
<tr>
<td></td>
<td>Singular Treatment of Commercial Television</td>
<td>162</td>
</tr>
<tr>
<td></td>
<td>Dissimilar Treatment of Programs</td>
<td>163</td>
</tr>
<tr>
<td></td>
<td>Desirability of Regulation</td>
<td>167</td>
</tr>
<tr>
<td></td>
<td>Regulation in a Changing Environment</td>
<td>168</td>
</tr>
<tr>
<td></td>
<td>Improving the Efficiency of the Current Regulation</td>
<td>169</td>
</tr>
<tr>
<td></td>
<td>Overall Assessment and Future Outlook</td>
<td>174</td>
</tr>
<tr>
<td></td>
<td>APPENDIX I HISTORICAL DEVELOPMENT OF AUSTRALIAN CONTENT REGULATION OF TV PROGRAMS</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>APPENDIX II PROGRAM REGULATION IN OTHER COUNTRIES</td>
<td>188</td>
</tr>
<tr>
<td></td>
<td>APPENDIX III SURVEY DESIGN AND IMPLEMENTATION</td>
<td>195</td>
</tr>
<tr>
<td></td>
<td>APPENDIX IV SURVEY QUESTIONNAIRE</td>
<td>202</td>
</tr>
<tr>
<td>Appendix</td>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>APPENDIX V</td>
<td>ESTIMATES OF AUSTRALIAN TELEVISION PROGRAMS EXPENDITURE</td>
<td>208</td>
</tr>
<tr>
<td>APPENDIX VI</td>
<td>LOGISTIC REGRESSION MODEL</td>
<td>210</td>
</tr>
<tr>
<td>REFERENCES</td>
<td></td>
<td>214</td>
</tr>
</tbody>
</table>
## FIGURES

<table>
<thead>
<tr>
<th>FIGURE</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Willingness to Pay Schedule</td>
<td>10</td>
</tr>
<tr>
<td>2.2</td>
<td>Program Valuation by Audiences</td>
<td>12</td>
</tr>
<tr>
<td>2.3</td>
<td>Consumer Welfare and Audience Preferences</td>
<td>12</td>
</tr>
<tr>
<td>3.1</td>
<td>Individual Valuation of Television Programs</td>
<td>27</td>
</tr>
<tr>
<td>3.2</td>
<td>Aggregate Valuation of Television Programs</td>
<td>28</td>
</tr>
<tr>
<td>3.3</td>
<td>Indifference for Two Adjacent Programs</td>
<td>30</td>
</tr>
<tr>
<td>3.4</td>
<td>Choice Between two Programs</td>
<td>34</td>
</tr>
<tr>
<td>3.5</td>
<td>Difference in Intensity of Viewer Preferences</td>
<td>37</td>
</tr>
<tr>
<td>3.6</td>
<td>Choice of Domestic and imported Programs</td>
<td>40</td>
</tr>
<tr>
<td>3.7</td>
<td>Regulation of Domestic Programs</td>
<td>42</td>
</tr>
<tr>
<td>3.8</td>
<td>Effect of Tariffs and Subsidies</td>
<td>43</td>
</tr>
<tr>
<td>5.1</td>
<td>Sydney Commercial Stations’ First Release Drama in Prime Time</td>
<td>66</td>
</tr>
<tr>
<td>5.2</td>
<td>Average Hours of Children’s Programs on Metropolitan Television Stations</td>
<td>67</td>
</tr>
<tr>
<td>5.3</td>
<td>Sydney Stations’ Expenditure per Hour of Australian Programs</td>
<td>68</td>
</tr>
<tr>
<td>5.4</td>
<td>Composition of Drama Programs on Sydney Stations,</td>
<td>74</td>
</tr>
<tr>
<td>5.5</td>
<td>Adult Drama Average Expenditure per Hour</td>
<td>75</td>
</tr>
<tr>
<td>6.1</td>
<td>Flow Chart of Willingness to Pay for Increase Question</td>
<td>98</td>
</tr>
<tr>
<td>7.1</td>
<td>Valuation of Australian TV Programs</td>
<td>110</td>
</tr>
<tr>
<td>7.2</td>
<td>Willingness to Pay for a 10 per cent Increase in Australian Programs</td>
<td>115</td>
</tr>
<tr>
<td>7.3</td>
<td>Determining Likely Strategic Behaviour</td>
<td>120</td>
</tr>
<tr>
<td>7.4</td>
<td>Distribution of Potentially Biased Responses to Main Valuation Questions</td>
<td>121</td>
</tr>
<tr>
<td>7.5</td>
<td>Distribution of Additional Expenditure on Australian Programs</td>
<td>124</td>
</tr>
<tr>
<td>8.1</td>
<td>Average Audience of Domestic and Imported Drama</td>
<td>130</td>
</tr>
<tr>
<td>VI.1</td>
<td>Illustration of Sequential Logistic Model</td>
<td>213</td>
</tr>
<tr>
<td>TABLES</td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>2.1 Demand Schedule</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>5.1 Australian Content of Commercial Stations' Programming</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td>5.2 Sydney Commercial Stations, Australian Content 1987-88 to 1994</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>5.3 Sydney Commercial Stations, Drama/Diversity Score 1987-88 to</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>1994</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.4 Sydney Commercial Stations, Adult Drama Score</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>5.5 Sydney Commercial Stations, Australian First Release Drama</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>5.6 Sydney Commercial Stations, Children’s Programs</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>7.1 Consumption of Movies, Videos and Television</td>
<td>101</td>
<td></td>
</tr>
<tr>
<td>7.2 Perception of Cultural Benefits</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td>7.3 Some Comparisons With Other Studies</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>7.4 Definition of Independent Variables</td>
<td>104</td>
<td></td>
</tr>
<tr>
<td>7.5 Perception of Cultural Benefits and Demographic Characteristics</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>7.6 Opinions on Australian Television Programs</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>7.7 Opinions on Australian Programs and Demographic Characteristics</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>7.8 Valuation of Benefits and Demographic Characteristics</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>7.9 Effect of Removing Inconsistent Responses on Mean Value for</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>Increased Australian Programming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.10 Demographic Characteristics &amp; WTP for Increased Australian</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td>Content</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.11 Expenditure Redistribution and Demographic Characteristics</td>
<td>122</td>
<td></td>
</tr>
<tr>
<td>7.12 Support for Changes to Quantity and Expenditure by Program</td>
<td>122</td>
<td></td>
</tr>
<tr>
<td>Category</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.13 Intensity of Demand for Increased Expenditure by Program</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Category</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.1 Number and Audiences of Prime Time Drama Programs</td>
<td>129</td>
<td></td>
</tr>
<tr>
<td>8.2 Audience Equivalents of Program Cost Differentials</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td>8.3 Audience Advantage of Domestic Drama Programs</td>
<td>134</td>
<td></td>
</tr>
<tr>
<td>8.4 Relative Performance of Prime Time Domestic Drama</td>
<td>135</td>
<td></td>
</tr>
<tr>
<td>8.5 Revenue Advantage of Average Domestic Drama Programs</td>
<td>137</td>
<td></td>
</tr>
<tr>
<td>8.6 Programs Discontinued After a Short-Term in Prime Time</td>
<td>138</td>
<td></td>
</tr>
<tr>
<td>9.1 Estimated Cost of C Programs and Children’s Drama Obligations</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td>9.2 Number of Prime Time Drama Programs</td>
<td>153</td>
<td></td>
</tr>
<tr>
<td>I.1 Historical Summary of Australian Content Regulations</td>
<td>184</td>
<td></td>
</tr>
<tr>
<td>II.1 Program Performance of Selected European Television Stations</td>
<td>191</td>
<td></td>
</tr>
<tr>
<td>II.2 New Zealand: Hours of Domestic Programming</td>
<td>194</td>
<td></td>
</tr>
<tr>
<td>III.1 Proportion of PSM Sample and ERP By Age and Gender - November</td>
<td>196</td>
<td></td>
</tr>
<tr>
<td>1994</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III.2 Selected Estimates from PSM and Monthly Labour Force (MLF)</td>
<td>197</td>
<td></td>
</tr>
<tr>
<td>Survey for Those Aged 18 Years and Over - November 1994</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III.3</td>
<td>Population Survey Monitor, Standard Errors - November 1994</td>
<td>200</td>
</tr>
<tr>
<td>V.1</td>
<td>Estimates of ABC Expenditure on Australian Programs</td>
<td>208</td>
</tr>
<tr>
<td>V.2</td>
<td>Expenditure on Australian Programs by Commercial Networks</td>
<td>209</td>
</tr>
<tr>
<td>V.3</td>
<td>Aggregate Expenditure on Australian Programs by the ABC and Commercial Networks</td>
<td>209</td>
</tr>
</tbody>
</table>
CHAPTER 1 INTRODUCTION

The principal aim of this thesis is to present a detailed economic evaluation of the effectiveness and efficiency of Australia’s regulation for domestic content of commercial television programming. The regulation has been a feature of the licensing obligations of commercial television operators almost since the start of television broadcasting in 1956. Its provisions not only mandate the screening of domestic programs for a minimum proportion of air time, but also set quotas for the supply of new domestic drama, documentary and children’s programs. The regulation is intended to be an important cultural policy instrument for the development and enhancement of an Australian national culture and identity.

Government regulation of programming and other aspects of television is a common feature of the television industry throughout the world (Brown and Cave 1992). The level of regulation and the mechanisms used to put it into effect vary across countries. In general, however, the regulation appears to emanate from a desire to promote freedom of expression and ensure that the perceived powerful influence of broadcasting is used in the public interest (OECD 1993). In Australia, as in most other countries, television has become the most important source of information and entertainment for most people and is regarded as an important influence on public opinion and attitudes. Consequently, special efforts have been deemed necessary to safeguard the integrity of the information supplied through the medium. Regulation of children’s programming is thought to be particularly important because of the potential vulnerability of children to the influences of television viewing.

Regulation to ensure at least a minimum amount of domestic programming is based primarily on the belief that there are spill-over effects on national culture and identity. Imported programs, produced primarily for consumption in their country of origin, reflect the culture and customs of other societies. In addition, once produced, the cost of making additional copies of a program for sale outside the producing country is small. Because of the influence of television on opinions and attitudes, the concern is that national culture and identity could be eroded by excess consumption of imported programs. Furthermore, without regulation, the inherent bias of broadcasters for lower cost programs may lead to insufficient supply of higher cost domestic programs necessary to counteract the possible negative cultural influences of imported programs.

RELATED ISSUES

There is a widespread perception both in Australia and overseas that a free market for television programs will not produce an allocation of resources which is consistent with national objectives. This presupposes that either market failure would be present or that an allocation different from that produced by the market is justified by distributional objectives. The potential causes of non-optimal programming outcomes include
insufficient information to make informed choices, generation of external benefits and bias of operators against costly programs and minority taste programs.

Principally, the undersupply appears to be a direct consequence of the advertiser-financed nature of commercial television (Steiner 1952, Spence and Owen 1977). To commercial broadcasters the supply of programs is an intermediate product necessary for the creation of the final product, access to audiences, which is sold to advertisers (Bates 1987, OECD 1993). As consumption of the programs does not involve a direct pecuniary charge, audiences are unable to use the price mechanism to express their intensity of preference for particular programs and influence the programming decisions of broadcasters. Furthermore, the cultural benefits derived by society arise partly as an externality to the consumption of domestic programs. As a broadcaster derives no direct gain from the cultural benefits, they exert little, if any, influence on programming decisions (BTCE 1991).

The inherent nature of traditional broadcasting, including restrictions on the number of available channels emanating from spectrum capacity, has set it apart from other media. In Australia ownership of more than one over-the-air television channel in any given area is prohibited by law. Unlike other media, such as newspapers, a television operator with a single channel faces considerable incentives to pursue mass audiences. A newspaper has scope, and faces a low marginal cost, to add extra pages to accommodate concurrently both mass and minority appeal material or supply additional advertising. In contrast, although a programming schedule may be structured to attract different audiences at different times, any one time slot can be filled only once and can only be directed at a single audience. Also, even without regulation, the broadcaster needs to balance the relative amount of time devoted to programming and to advertising to avoid alienating the audience. Consequently, a television operator attempting to maximise profits is likely to pursue a programming strategy of attracting the largest possible audience at any given time and for any given program expenditure (Owen and Wildman 1992).

In part, domestic content and other programming regulation have been thought to be justified by the limited number of available channels. In return for their privileged access to the publicly owned and scarce spectrum, licensed television operators have been deemed to owe a duty of trust to supply programs regarded to be in the public interest. However, to the extent that this concept of a public trust has validated the use of programming regulation in a regime characterised by spectrum scarcity, its continued validity in a rapidly developing environment of spectrum plenty must be questionable.

Domestic protection of cultural industries, including content regulation, also stands out as an anomaly in an era of deregulation. It has survived concerted liberalisation assaults in international trade negotiation forums and has been exempted from the provisions of the GATS and NAFTA agreements1. The issue, however, remains prominent. It is unlikely that the regulation will be able to withstand indefinitely the combined pressure of trade liberalisation and of the current rapid convergence of communications and information industries that is already changing the television landscape (Acheson and Maule 1989). In such an environment, the issue of domestic content regulation takes on

1 Only Canada has chosen to exempt cultural industries from NAFTA.
added significance. If the regulation is truly delivering a net benefit to society then it may be necessary to ensure that appropriate mechanisms are set in place to safeguard continued delivery of the benefits in the emerging new environment.

SIGNIFICANCE OF THE STUDY

Regulation of the level of Australian content of television programs was first introduced in 1961. Although the requirements have been amended on various occasions, regulation has been applied continuously ever since. Debate on the issue, however, has not abated. Today, even after more than 30 years of regulation and public scrutiny of its effect, the issue of Australian content of television programs remains at the forefront of policy debate and there are no signs that the issue has been resolved. Indeed, the introduction of pay television services and the foreshadowed expansion of communication services, including television, should ensure a continuation of lively debate at least for the foreseeable future.

Although it is often claimed that the regulation of Australian content of commercial television is in the public interest (ABA 1994a, ABT 1991a (vol. 1)), there has been a distinct lack of serious attempts to quantify the claimed benefits. The considerable and extensive debate that has ensued on this issue over the years has rested mainly on opinion. To a large extent, the lack of quantification is due to the inherent difficulties of valuing the non-traded cultural benefits that are deemed to accrue from the consumption of domestic television programs. Without quantification of the benefits, it is not possible to establish with any level of confidence whether the community is really made better off by the regulation.

There are also questions about the long term sustainability of the regulation. New delivery technologies are creating opportunities for a vast expansion of television and similar services. Subscription television services have already been introduced in Australia. With the continued expansion of broadband communication networks, the capacity for pay television and like services is expected to grow enormously. All these services are likely to be competing with free-to-air television services for both audiences and programming. The regulation of these services, however, is likely to be different from that currently applying to free-to-air commercial services. Furthermore, the anticipated introduction of international satellite television services is likely to be beyond the reach of domestic regulation. The associated technology is also undergoing rapid development and is likely to lead to substantial changes in the delivery and type of services available in the years ahead.

The policy implications of the current developments are obvious. Deregulation of communication services has been underway for some years and is expected to accelerate. The convergence of telecommunications and audio-visual services (including television)
will make it extremely difficult to insulate television services from deregulation. Indeed, there are likely to be substantial difficulties in defining the boundaries between television and other similar services (BTCE 1994). The question to be resolved then becomes: how important are the benefits that society derives from domestic content regulation?

The question cannot be resolved without quantification of the benefits themselves. If the benefits of the regulation are substantial and are such that their continued delivery is important to society, then it becomes necessary for policy makers to develop appropriate mechanisms that are sustainable in the changing environment. The findings of the study, therefore, could make a substantial contribution to informed debate on the need for domestic content regulation and on the development of appropriate mechanisms if intervention is justified.

ANALYTICAL FRAMEWORK

The analysis is based on the welfare economics premise that a rational community undertakes collective action with the aim of maximising social welfare. On that basis, policy interventions which do not generate a net gain in social welfare are inefficient and should not be pursued, unless they are deemed necessary to achieve a socially desirable redistribution of the society’s resources.

For an intervention to be justified using this framework it is necessary to demonstrate that a free operating market, left to its own devices, will not produce a welfare maximising solution (a Pareto efficient solution). In other words it is necessary to demonstrate the existence of some form of market failure.

While the existence of market failure is a necessary condition for intervention, it is not a sufficient justification for intervention. For sufficiency, it is also necessary to demonstrate that the benefits of the proposed intervention outweigh its costs, including the cost of the intervention itself. Unless an intervention can be shown to produce a net welfare gain, it will make society worse off and thus would be undesirable. Maximisation of efficiency also requires demonstration that the proposed intervention produces a larger net gain to society than could be achieved by alternative mechanisms.

Systematic assessment of the efficiency of a policy intervention is generally referred to as cost-benefit analysis. It requires the identification of all the effects of an intervention (both market and non-market) on the individual welfare of all members of the society and the aggregation of these effects in some common unit (usually dollars). Changes in the welfare of individuals are measured by their willingness to pay for a benefit or willingness to accept compensation for a cost. Overall, the aim of cost-benefit analysis is to assess whether the gainers from the intervention would be prepared to pay more than what the losers would accept in compensation for their loss and thus demonstrate that the intervention leads to a potential Pareto improvement.
Using this framework, the principal questions addressed in the following analysis are:

- Is the regulation of domestic content of television programs justified by market failure or desirable distributional objectives?
- Is the regulation an effective mechanism for the correction of the identified market failures or for the delivery of the desired distributional objectives?
- Are the mechanisms used the most efficient available for the purpose?

**STRUCTURE OF THE THESIS**

In broad terms, the underlying plan of the thesis may be divided into three parts. The aim of the first part is to introduce the topic of the thesis and outline and develop the theoretical framework for the examination of regulatory instruments and their justification. The second part of the thesis focuses on the analytical aspects of the research. In this part, the performance and effectiveness of Australian content regulation in achieving its stated objectives is assessed. The value of the benefits accruing to society is also assessed. The final part brings the earlier elements together to assess the efficiency of the regulation, draws conclusions on its desirability and provides comments on potential improvements. An outline of the contents of subsequent chapters follows.

Before presenting a detailed examination and analysis of the effectiveness of the regulation, some of the more important economic aspects of commercial television programming are outlined in Chapter 2. The main function of the chapter is to provide an understanding of the likely impact of programming regulation. Its focus, therefore, is on the underlying incentives and other aspects of market behaviour of stations that influence programming decisions.

Chapter 3 develops a model to illustrate the incidence of bias and market failure in the programming decisions of commercial broadcasters, particularly in situations with restricted entry. The model builds on and extends the work of other researchers and provides a theoretical framework for the welfare analysis of regulatory mechanisms designed to alter the market behaviour of broadcasters.

The objectives and rationale for domestic content regulation are discussed in Chapter 4. The discussion highlights the objectives being pursued by the regulatory mechanisms and the validity of the principal reasons that have been advanced to justify government intervention in the market. The chapter is augmented by Appendix I, which outlines the historical development of the regulation in Australia and Appendix II, which provides some details of the approaches taken in other countries in pursuit of similar objectives.

This is followed in Chapter 5 by an analysis of the effectiveness of the regulatory mechanisms in achieving their stated aims. Of particular interest here is the extent to which compliance with the regulatory requirements affects the market behaviour of television operators.
The benefits generated by the regulation are estimated with a contingent valuation survey of the community’s willingness to pay for Australian content of television programs. The methodology and questionnaire used in a national survey of willingness to pay are described in Chapter 6. Details of the survey sample and of the survey design and implementation are provided in Appendix III. The survey questionnaire is reproduced in Appendix IV. Appendix V gives details of the derivation of estimated costs per household of Australian programming on television that was used in the questionnaire.

The analysis of the survey data and estimates of the values that the community places on both the current level, and on a small increase in the current level, of Australian content are presented in Chapter 7. A series of logistic regressions are used to test the relationship between various responses and selected demographic characteristics of respondents. Details of the logistic regression models used in the analysis are provided in Appendix VI.

Chapter 8 contains an analysis of the competitiveness of domestic drama after taking account of its cost disadvantage relative to imported drama. The analysis is based on comparisons of audiences of domestic and imported drama screened at prime viewing times.

The additional costs generated by each of the main elements of the regulation are examined in Chapter 9. The chapter also highlights the likely gainers and losers from the regulation.

Finally, the focus of Chapter 10 is on the assessment of the relative efficiency of the current regulation. It also gives some consideration to alternative mechanisms that may improve efficiency.
CHAPTER 2  ECONOMIC FUNCTION OF COMMERCIAL TELEVISION PROGRAMMING

INTRODUCTION

Commercial broadcasters, like other business operators, engage in economic activity for profit. The principal assumption is that, as rational economic agents, their actions are directed at maximising profit by pursuing the economic opportunities offered by the market. Regulation, on the other hand, is a mechanism designed to alter market behaviour in some specific manner. Even so, within the constraints imposed by the regulation, compliance is largely determined by the underlying economic incentives available to the operators. An understanding of the underlying economic incentives is a prerequisite to any study of the effectiveness and efficiency of regulation.

Some of the more important economic aspects of commercial (advertiser-financed) television, particularly in relation to programming, are described in this chapter. The intention is to provide an introductory rather than a comprehensive and detailed description of the economic function of broadcasting. The focus is on those aspects of the market behaviour of free-to-air commercial television stations that are relevant to, and influence, programming decisions that are subject to programming regulation. More complex aspects of the economics of television are included only where important direct or indirect linkages exist between them and programming.

GENERAL FEATURES

All television broadcasters, irrespective of how they are financed, operate in the entertainment and information market where they supply programs to audiences. With the exception of pay television, broadcasters do not charge viewers for the consumption of programs. Once consumers have acquired the appropriate reception equipment, the only continuing pecuniary charge they face is the cost of operating the equipment.

Commercial free-to-air broadcasters are different from other broadcasters in an important aspect that underpins all their operations. In addition to supplying programs to viewers, commercial broadcasters concurrently deliver advertising messages to audiences on behalf of advertisers. For them, programs are essentially intermediate products supplied to audiences in exchange for the audiences' time and attention. Their final product, which they sell to advertisers, is access to the audiences generated by the programs.

The advertisements are broadcast during planned breaks in the transmission of programs. The number of breaks and the number of advertisements in each break is controlled by the broadcaster. Currently, the total amount of time devoted to advertising in any hour of programming is controlled by regulation. Although the audience has no control over
the timing and duration of advertising breaks, the individual listener/viewer can choose whether or not the advertising material is consumed.

Advertising is sold in the form of air-time and its price reflects both the amount of air-time and the size and characteristics of the audience to which access is provided. Audiences tend to be large and heterogeneous. The relatively more homogeneous audiences attracted by a small select number of programs may enable the charging of premium rates for advertising. However, for the overwhelming majority of programs, the rate charged is determined almost entirely by audience size (Carrie and Ehrenberg 1992) and thus implies equivalence of revenue maximisation and audience maximisation (Hoskins, McFadyen and Finn 1994). The more efficiently audiences are produced (and advertisers are attracted), the greater the profits which are generated.

To secure an audience for its programs commercial free-to-air television competes with other media and other suppliers of entertainment and information services. The level of competition with non-television media is unlikely to be high. Although substitutable to some degree, the various media generally cater for different consumer needs and are used differently by audiences (Picard 1989). Competition with other television operators in the same geographic market can be substantial.

Because audience size and demographic characteristics are the primary determinants of advertising revenue, the television channels use their programs to secure the largest possible share of the available audience with the desired characteristics. Within the constraints imposed by regulation, the range and composition of the programs offered to viewers is determined primarily by the channels. Because of the absence of a price mechanism, audiences are unable to express their intensity of demand for particular programs and thus have only an indirect influence on programming decisions. The options available to audiences are limited to choosing a program from those on offer by the competing services or choosing some other activity. Similarly, for broadcasters, the absence of price competition means that they have to rely on the range, quality and appeal of their programs to compete with each other. However, to attract viewers away from a competitor’s programs a channel must offer programs that are at least marginally more valuable to the viewers than those available on competing channels.

PROGRAMMING

Programming is the most important aspect of producing audiences over which broadcasters have considerable discretion. It is also the largest element of production costs representing almost 40 per cent of total expenditure by broadcasters (ABA 1995b). Transmission (i.e. program delivery to viewers) costs are generally fixed by licensing requirements that specify the amount of transmission time, the technology and the power (strength) of the signal to be transmitted throughout the designated reception area.
Transmission costs are largely independent of the type of program that is broadcast. The sale of advertising is also largely independent of program costs and is primarily determined by the structure of the advertising market where a few agencies control most television advertising.

Television programs and their broadcast to audiences have public good characteristics in that their consumption or reception by one person does not detract from the consumption by others (Owen and Wildman 1992). The production costs of a program are unaffected by the number of its viewers. Virtually all the production costs are incurred in the making of the first copy of the program. The marginal cost of making additional copies are low. Similarly, the transmission costs are not affected by the number of people who choose to receive the signal. Although exclusion is technologically possible, the licence conditions require commercial broadcasters to provide the signal simultaneously and free of charge to anyone with an appropriate receiver throughout the designated reception area. The broadcaster therefore faces the same costs irrespective of the size of its audience. On the other hand, as its revenue is largely determined by the size of the audience, the broadcaster has an incentive to maximise the audience for any given program cost. These factors have important implications for the economic welfare accruing to society.

Television programs are part of a broad range of creative and artistic activities with inherent characteristics that may assist the development and enhancement of a national culture and identity. The benefits of those activities accrue not only as private benefits to those involved but also as external benefits to society as a whole. The very nature of an external benefit means that it is not taken into account by participants to a market exchange as neither the supplier nor the consumer can appropriate the value of the benefit. The existence of such benefits means that market outcomes are unlikely to maximise social welfare and could justify some form of market intervention.

**VALUE OF PROGRAMS TO VIEWERS**

The value of the private benefits accruing to consumers is generally determined by the price they are willing to pay for a product or service that is freely exchanged in a market. Intensity of demand is usually measured by the cost that a person is prepared to incur to participate in an activity. This cost is a combination of both the monetary cost and the opportunity cost of not using the time to pursue the next best available activity. Where consumption of goods or services does not involve a direct payment by consumers, such as in the case of television programs, it is not possible to assess benefits directly. However, the absence of a money price for broadcasting does not imply that consumption of a broadcast program is less valuable to the consumer than the pursuit of an activity for which a charge is made.

---

1 This refers only to the activity of broadcasting a finished program from the station. Activity such as sending a live program from a site outside the station for re-transmission to the licence area would be included in the program costs.
The viewing of a television program indicates that the person’s intensity of demand for the program exceeds that of available alternative programs or other alternative activities. Because of the absence of a price mechanism, welfare analysis in such situations has to rely on indirect measures (e.g. contingent valuation) to estimate how much people value their television viewing.

**STANDARD APPROACH TO ANALYSIS OF DEMAND**

It is worthwhile to discuss in some detail how intensity of demand may be assessed in relation to television viewing. The concept of willingness to pay provides the basis of benefit valuation whether or not a pecuniary payment is involved. For simplicity, the discussion begins with an illustration of intensity of demand for a market commodity with similar properties to those of television programs. The discussion is then extended to illustrate how the concept of willingness to pay can also be used to assess the intensity of demand for television programs themselves.

An individual's intensity of demand for a service (or a product) is reflected by the maximum amount that the individual is prepared to pay to obtain the service. The intensity of demand, and consequently willingness to pay, varies from one individual to another. For example, individuals with a very high intensity of demand for a particular movie may be prepared to pay a high price for an exclusive preview of that movie at a cinema. Others, depending on their intensity of demand, may be happy to wait for the normal release of the movie at cinemas, or its release on video, or even for its eventual broadcast on free-to-air television. In each case willingness to pay represents the value of the benefits an individual expects to gain from seeing the movie. The concept is illustrated with the aid of a simple example in figure 2.1

**Figure 2.1: Willingness to Pay Schedule**

Say there is a small number $n$ of individuals ($I_1$ to $I_n$) wishing to see a special screening of a movie. The first individual being a devotee of the particular movie genre is prepared to
pay as much as $20 for a ticket to the screening. This is illustrated in figure 2.1 as a vertical line from zero up to $20. Similarly, the other individuals in the group are prepared to purchase a ticket as long as the price does not exceed their maximum willingness to pay. More generally, an individual’s demand for a ticket \( d_i = 1 \) if its price is \( p \leq w_i \) where \( w_i \) denotes the individual’s willingness to pay.

The total demand for the cinema tickets may be deduced from the individuals’ willingness to pay. Table 2.1 uses a schedule of the individuals’ willingness to pay to derive the number of tickets that would be sold at different prices to the first \( n \) individuals. For the hypothetical example used, it shows that for a price of $20 only one ticket would be sold while for the price of $2 all individuals would be willing to buy a ticket. By a similar process, consideration of the willingness to pay of all the members of the potential audience for the movie would allow derivation of the demand for the movie in terms of the number of tickets sold (equivalent to actual audience size). Total demand for tickets \( D \) at a given price \( (p) \) is given by: \( D = \sum d_i \) where \( d_i = 1 \) if \( p \leq w_i \) and \( = 0 \) if \( p > w_i \). The total benefits derived by the audience is given by the sum of the willingness to pay of each of the members of the audience.

Table 2.1: Demand Schedule

<table>
<thead>
<tr>
<th>Price</th>
<th>I_1</th>
<th>I_2</th>
<th>I_3</th>
<th>I_4</th>
<th>I_5</th>
<th>...</th>
<th>I_n</th>
<th>Tickets Sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>...</td>
<td>no</td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>...</td>
<td>no</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
<td>no</td>
<td>...</td>
<td>no</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>...</td>
<td>no</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>...</td>
<td>no</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>...</td>
<td>yes</td>
<td>n</td>
</tr>
</tbody>
</table>

Viewing of a program on pay-per-view television\(^2\) is not too dissimilar from purchasing a ticket to view a cinema movie. The intensity of an individual’s demand for the program would be reflected by the maximum price that individual would be willing to pay for access to the program. In the case of free-to-air television, where viewers do not incur a direct pecuniary cost to access a program, the value to viewers is indicated by their preparedness to give up alternative activities available to them (i.e. the opportunity cost of the forgone activity). Viewers may be thought as having an implicit reserve price \( (w) \) for a program at least equal to the value of the benefits that would have been derived from the alternative activity. The demand for a program (i.e. its audience size) may then be expressed as a function of the implicit reserve price (i.e. \( D = f(w) \)). Also, it would not be unreasonable to assume that demand curve is downward sloping as illustrated in figure 2.2.

\(^2\) It differs from pay television in that a separate payment is charged for access to each individual program rather than a single subscription for access to the whole schedule of programs.
As noted above, a consumer’s willingness to pay (and hence the value of the derived benefits) may exceed the price paid for a commodity. The difference between the total value that consumers place on all units consumed of a commodity and the actual payment they make to purchase the same amount of the commodity is known as the consumer surplus. As no direct charge is incurred for viewing a free-to-air television program, the consumer surplus generated by the program illustrated in figure 2.2 is given by the area under its demand curve. Because of differences in willingness to pay among individuals, it is possible that a program with a small audience may be valued more than one with a larger audience. The possibility is illustrated in figure 2.3.
In figure 2.3 it is assumed that two programs A and B are available to a broadcaster at the same cost. The two programs are provided free of charge (advertiser-financed) to the viewers and valued differently by their different sized audiences. As shown by the respective demand curves, Program A is highly valued by a small audience, whereas program B is less valuable to a larger audience. The consumer surplus derived from each of the programs is represented by the shaded area under the respective demand curves.

While one program may generate a higher level of consumer surplus than another, it does not necessarily follow that economic welfare is maximised by that program. Economic welfare derived from broadcasting is maximised if the sum of the surplus accruing to producers and to consumers from the consumption of a given set of programs is greater than that which could be derived from any alternative set of programs. Since the figure assumes equal costs for both programs, the larger audience (and thus larger advertising revenue) of program B ensures that its producer surplus exceeds that of program A. However, the much larger consumer surplus of program A ensures that its total surplus exceeds that of program B. Consequently, from a welfare perspective, program A should be preferred to program B.

BROADCASTERS AND PROGRAM CHOICE

Costs are a major consideration in the program decisions of commercial broadcasters. Because programs have different costs and generate different audiences, both in terms of size and composition, program selection involves a trade off. Broadcasters need to balance cost differences against differences in the advertising revenue that can be earned from their expected audiences. Which of two programs is chosen will be determined by the combination of cost and expected audience with the greater profit potential. High cost programs would be chosen in preference to lower cost substitutes as long as their expected audience was sufficiently large to outweigh their cost disadvantage. Similarly, programs with smaller expected audiences would be chosen so long as their expected advertising revenue disadvantage was outweighed by their lower cost. This may be demonstrated as follows.

Let the expected gross profit \( E(\Pi) \) be defined as the difference between expected advertising revenue \( E(R) \) and the cost of acquiring and transmitting the program \( (C) \), ie:

\[
E(R) = rT\rho(1 + \sigma)A \quad \text{and} \quad C = k + c
\]

where:
- \( r \) is the market rate per unit of advertising ($ per minute per 1000 viewers);
- \( T \) is the time devoted to advertising (fixed by regulation);
- \( \rho \) is the probability of generating the expected audience;
- \( A \) is the program's audience (thousands);
\( \sigma \) is a function of the program (and indirectly of the demographic characteristics of the program’s audience);
\( c \) is the cost per hour of the program; and
\( k \) is the hourly cost of transmission (independent of the program being broadcast).

More generally, for each program time slot, the problem for the broadcaster is to maximise the expected gross profit subject to program cost and available types of programs, i.e.

\[
\text{Max } E(\Pi) = E(R) - C = rT(1 + \sigma)A - (k + c).
\]

Or over the whole program schedule:

\[
\text{Max } \Sigma E(\Pi_i) = \Sigma E(R_i) - C_i = rT(1 + \sigma)\Sigma(\rho A_i) - (k + c_i).
\]

If a competitive market is assumed, the value of \( r \) and \( c \) is set exogenously by the market, the value of \( k \) is independent of the program type. The value of \( T \) may be chosen by the broadcaster but is ultimately fixed by the number of advertising breaks and the amount of advertising acceptable to audiences.³

When choosing between two programs (1 and 2) of the same type (i.e. \( \sigma_1 = \sigma_2 \)) to be screened in the same time slot (thus assumes \( \rho_1 = \rho_2 \)), a broadcaster would prefer the one with the smaller audience only if it generates the larger expected gross profit per hour. If it is assumed that program 2 is the less costly of the two alternative programs and that it is expected to generate the smaller audience, the relevant question to be resolved is under what conditions would program 2 be preferred to program 1.

For program 2 to be preferred, \( E(\Pi_2) > E(\Pi_1) \). This may be re-written as:

\[
E(\Pi_2) = E(\Pi_1) + \delta \quad \text{where } \delta > 0.
\]

Thus:

\[
rT(1 + \sigma)\rho A_2 - (k + c_2) = rT(1 + \sigma)\rho A_1 - (k + c_1) + \delta.
\]

Transposing and rearranging the terms,

\[
rT(1 + \sigma)\rho A_1 - rT(1 + \sigma)\rho A_2 = (k + c_1) - (k + c_2) - \delta
\]

\[
rT(1 + \sigma)\rho(A_1 - A_2) = c_1 - c_2 - \delta
\]

\[
rT(1 + \sigma)\rho(A_1 - A_2) < c_1 - c_2.
\]

³ In most countries, the amount of advertising in any hour is fixed by regulation.
Essentially, this states that a broadcaster will prefer the lower audience, lower cost alternative so long as the cost difference between the two programs is proportionally greater than the difference in their expected audiences. The converse would have to be true for the higher cost, higher audience program to be preferred.

In an unregulated market with unlimited channel capacity all programs capable of generating sufficient advertising revenue to cover the broadcaster’s costs would be supplied. In a market with a restricted number of channels some otherwise profitable programs might not be supplied. Channel restrictions may also lead to program supply outcomes that do not maximise social welfare.

SOURCE OF PROGRAMS

Television programs may be produced directly by the broadcaster or may be sourced from domestic or foreign suppliers. Programs with a high degree of localised or time-specific appeal (e.g. news and sports) tend to be produced directly by the broadcaster. They also enjoy a high level of natural protection from import competition. Programs with a longer ‘shelf life’, such as drama and documentaries, are much more likely to be available from external suppliers. For such programs, competition from imports can be considerable.

Most television programs are produced primarily for the domestic market in their country of origin and are typically intended to cater for the tastes and preferences of viewers in that market. Sales of the program to other countries are a secondary consideration with limited influence on production decisions. Once a program has been produced, the marginal cost of additional copies for overseas sales is very low and amounts to little more than the cost of video tape or film stock required for the copy. Consequently, programs produced in one country can be supplied profitably at very low prices to broadcasters in other countries.

The culturally specific nature of programs produced primarily for domestic consumption in one country may lessen their appeal to viewers in other countries. Consequently, imported programs are likely to attract fewer viewers, and thus less advertising revenue, than domestic programs of the same type and quality (Hoskins and Mirus 1988, Wildman and Siwek 1988). The extent of the diminished appeal to viewers and diminished advertising value to broadcasters will depend on differences in language, values, beliefs and other culturally related factors between the producing and consuming countries. Hoskins and Mirus describe the program’s diminished value to foreign viewers as a “cultural discount” and use a hypothetical numerical example to demonstrate the disadvantage of small countries in the production of high cost television programs.

The general applicability of the concept may be demonstrated as follows. Assume that there are two countries with different sized television viewing populations. The first has

---

4 Co-productions are exceptions that necessarily take account of preferences and sales in the participating countries.
a television viewing population $N$ and the other a proportionally larger viewing population $(1 + g)N$ where $g > 0$. Both countries have the same production costs, $C$, for programs of the same type and quality. The programs attract the same given proportion of the available audience $x$ in their country of origin and, because of the effects of the cultural discount, $d$, a smaller proportion $x(1 - d)$ in the second country. For simplicity, it is assumed that the value of each unit of audience to advertisers is the same in both countries, and that the program producer recoups a fixed proportion of the advertising revenue accruing to the program in both countries. Then, the return of the programs to the producers in the large country and small country respectively ($\Pi_1$ and $\Pi_s$) are:

$$
\Pi_1 = p(rx(1 + g)N + rx(1 - d)N) - C \quad \text{and}
$$

$$
\Pi_s = p(rxN + rx(1 - d)(1 + g)N) - C
$$

where:

- $p$ is the proportion of advertising revenue recouped by the producer ($0 < p < 1$);
- $r$ is the advertising rate per unit of audience;
- $d$ is the cultural discount ($0 < d < 1$); and
- $x$ is the proportion of the available audience attracted by the program ($0 < x < 1$).

For the larger country producer to have an advantage over the smaller country producer $\Pi_1$ must be greater than $\Pi_s$. From the above,

$$
\delta \Pi = \Pi_1 - \Pi_s = p(rx(1 + g)N + rx(1 - d)N) - p(rxN + rx(1 - d)(1 + g)N)
$$

$$
= prxN((1 + g) + (1 - d) - 1 - (1 + g)(1 - d))
$$

$$
= prxN(1 + g + 1 - d - 1 - (1 + g - d - dg))
$$

$$
= prxN(dg) > 0 \quad \text{since} \quad g, d > 0.
$$

Hence:

$$
\delta \Pi/\delta g > 0, \quad \delta \Pi/\delta d > 0.
$$

Also, as $p$, $r$, and $x$ have been assumed to be constant in the two markets, the profit difference is entirely dependent on the cultural discount and the difference in the television viewing population of the two countries. The advantage of the larger country producer increases with increases in the cultural discount (cultural differences) and differences in the television viewing population.

More generally, differences in production costs and in the values of $p$, $d$, $r$, and $x$ applying in the two countries may act to increase or decrease the size of the advantage enjoyed by the larger country producer. Production costs may vary substantially from one country to another. If such differences are substantial, the larger country producers could retain their advantage by simply exporting the appropriate elements of their production to the lower cost country. With respect to the other factors, in most cases differences are unlikely to be of such a magnitude as to erode the advantage of the larger country producer. However, for one country at least (United States of America (US)),
the cultural discount has been found to have a large imbalance in its favour (Hoskins, Mirus and Rozeboom 1989).

The international dominance of the US in international trade in television programs has been found to be related to its large population (with a common language), its high per capita income and the effects of the cultural discount (Hoskins and Mirus 1988, Hoskins, Mirus and Rozeboom 1989). The relative advantages flowing from these factors favour large budget productions with international appeal and an international outlook by US producers (Hoskins and Mirus 1988, Wildman and Siwek 1988, Acheson, Maule and Filleul 1989). There is also evidence that the international market is not perfectly competitive and that US producers may be engaging in collusion that enables them to act like a dominant price discriminating firm (Hoskins and Mirus 1988, Hoskins, Mirus and Rozeboom 1989). Their dominance of the international market, together with the very low marginal cost of additional copies of a program, enables US producers to set discriminating supply prices in each market that are close to the ruling demand price in those markets. All these aspects suggest the likely existence of some form of competition failure.

INDUSTRY REGULATION

Commercial free-to-air television is required to comply with a variety of regulations that directly affect the industry’s structure, conduct and performance. Virtually all the major aspects of the industry (including entry, ownership, competition, programming content and amount of advertising) are covered by some form of regulation. The regulations are intended to protect the public interest by preventing undue influence on public opinion by those in control of broadcasting and ensuring equitable access to diverse broadcasting services throughout the country.

Commercial free-to-air television services are limited to no more than three in any licence area5. In addition, the technical planning provisions on the allocation of broadcasting frequencies place an upper limit of six free-to-air services throughout the country, including the two services allocated to public broadcasters. Thus, even if the limit on commercial stations is removed, the technical provisions essentially preclude the operation of more than one additional commercial station in any licence area without displacement of the public services.

A person is prohibited from exercising control on more than one commercial licence in the same area or exercising control over licences whose combined licence area populations exceed 75 per cent of the population of Australia. A foreign person is prohibited from controlling a commercial television licence or having a company interest in a licence exceeding 15 per cent. Two or more foreign persons must not have a company interest in a licence exceeding 20 per cent. Similar provisions apply with respect to directorships of licensee companies.

5 There are three commercial free-to-air services operating in all mainland capital cities and throughout most of the eastern mainland states.
the cultural discount has been found to have a large imbalance in its favour (Hoskins, Mirus and Rozeboom 1989).

The international dominance of the US in international trade in television programs has been found to be related to its large population (with a common language), its high per capita income and the effects of the cultural discount (Hoskins and Mirus 1988, Hoskins, Mirus and Rozeboom 1989). The relative advantages flowing from these factors favour large budget productions with international appeal and an international outlook by US producers (Hoskins and Mirus 1988, Wildman and Siwek 1988, Acheson, Maule and Filleul 1989). There is also evidence that the international market is not perfectly competitive and that US producers may be engaging in collusion that enables them to act like a dominant price discriminating firm (Hoskins and Mirus 1988, Hoskins, Mirus and Rozeboom 1989). Their dominance of the international market, together with the very low marginal cost of additional copies of a program, enables US producers to set discriminating supply prices in each market that are close to the ruling demand price in those markets. All these aspects suggest the likely existence of some form of competition failure.

**INDUSTRY REGULATION**

Commercial free-to-air television is required to comply with a variety of regulations that directly affect the industry’s structure, conduct and performance. Virtually all the major aspects of the industry (including entry, ownership, competition, programming content and amount of advertising) are covered by some form of regulation. The regulations are intended to protect the public interest by preventing undue influence on public opinion by those in control of broadcasting and ensuring equitable access to diverse broadcasting services throughout the country.

Commercial free-to-air television services are limited to no more than three in any licence area⁵. In addition, the technical planning provisions on the allocation of broadcasting frequencies place an upper limit of six free-to-air services throughout the country, including the two services allocated to public broadcasters. Thus, even if the limit on commercial stations is removed, the technical provisions essentially preclude the operation of more than one additional commercial station in any licence area without displacement of the public services.

A person is prohibited from exercising control on more than one commercial licence in the same area or exercising control over licences whose combined licence area populations exceed 75 per cent of the population of Australia. A foreign person is prohibited from controlling a commercial television licence or having a company interest in a licence exceeding 15 per cent. Two or more foreign persons must not have a company interest in a licence exceeding 20 per cent. Similar provisions apply with respect to directorships of licensee companies.

---

⁵ There are three commercial free-to-air services operating in all mainland capital cities and throughout most of the eastern mainland states.
Other provisions apply to the common ownership or control of television, radio and newspapers in the same area. A person must not exercise control of a television licence and a radio licence with common licence areas or of a television licence and a major newspaper associated with the licence area.

The principal controls on programming are in the form of licence conditions, registered codes of practice drafted by the industry and standards defined by the industry regulator. The controls relate to matters including fairness and accuracy in news services, protection of children and community morals and decency, and mandating minimum levels of domestic programming.

The amount of advertising is also controlled. No advertising is permitted during prescribed pre-school program times and no more than 5 minutes per half hour is permitted during other children’s programming times. Advertising time is restricted to an average of 13 minutes per hour between 6.00 pm and midnight, and an average 15 minutes per hour at other times. Between 6.00 pm and midnight no more than 15 minutes may be used for advertising in any hour, and no more than 14 minutes per hour in any four hours. A maximum of 16 minutes is permitted at other times.

**REACTION TO REGULATION**

Profit maximisation implies that broadcasters will attempt to maximise the revenue from, and minimise the cost of, their operations. The imposition of binding regulation forces broadcasters to modify their behaviour in a way that prevents unrestrained pursuit of profit maximisation. Compliance with binding regulation may reduce potential revenue (e.g. limits on advertising time), increase costs (e.g. transmission standards) or both (e.g. program requirements).

Within the constraints imposed by the regulation, a rational broadcaster would continue to pursue profit maximisation. The broadcaster would have an incentive to minimise the impact of the regulation on profits. Thus the broadcaster would attempt to comply with the regulation in a way that minimises both losses of revenue and increases in costs. It would be expected, therefore, that regulated behaviour would be pursued only to the minimum extent necessary to ensure compliance with the mandated requirements.

**TECHNOLOGICAL CHANGE**

Television is one of the services likely to be most affected by the technological changes currently in progress in the information and communications industries. The last decade has witnessed a rapid acceleration of technological change with a potential for massive expansion in the number and type of audio-visual services. The main driving force for the rapid technological change has been the convergence of computer and communications technologies. The boundaries of previously distinct industries
producing and delivering distinct services are merging as new services are developed with characteristics that span the merging industries.

The key elements of the technological convergence are the development of the microchip that has greatly facilitated ownership and use of personal computers and the establishment of fibre optic cable networks with a capacity to deliver hundreds of television channels to the home. The arrival of fibre optic networks spells the end of spectrum capacity constraints that have restricted the number of television channels that could be made available in any one locality. The availability of numerous channels erodes the potential influence of individual television channels and, thus, one of the principal bases for programming regulation.

Another important technological development from the point of view of content regulation is the digitisation of information signals. The process reduces all forms of information content to electromagnetic pulses (commonly referred to as ones and zeros) which greatly facilitates the storage, processing, transmission and retrieval of signals. The process permits rapid processing and exchange of information. Coupled with advances in computer technology and the ease of access to computer networks, consumers can avail themselves of remote access to diverse services and products. This means that individuals will increasingly be able to enjoy greater flexibility in sourcing information and entertainment products that best meet their needs and bypass traditional services and associated regulations.

The multitude of services likely to become available will erode the audiences of free-to-air television services. To some extent this is already taking place. Free-to-air television already faces some competition for audiences from video hire outlets. Pay television and narrowcasting services are being introduced throughout Australia. In the US, for example, where they have been established for many years, pay television services attract more than 30 per cent of all television audiences (National Cable Television Association 1993).

Erosion of the audience of free-to-air television will not only reduce its influence in the community, but will also reduce its earning capacity. Advertising will become more competitive with the entry of new services\(^6\). Furthermore, as advertising is sold primarily on the basis of audience size, the erosion of traditional television audiences will lead to a commensurate decline in advertising revenue. The entry of new services will also result in increased competition and increased costs for the available programming. The twin pressures of reduced revenues and increased programming costs will weaken the capacity of traditional operators to sustain the continuing cost of the programming regulation.

\(^6\) Advertising on pay television in Australia is banned until July 1997. The ban does not apply to other services.
In any event, as the number and variety of services expand, the current regulatory approach which was designed specifically for free-to-air television may not be appropriate or feasible in relation to the new services. Indeed, of services already introduced, only pay television is subject to some form of domestic content regulation. Other services, such as video hire and narrowcasting, are not subject to domestic content regulation. Non-uniform regulation of competing services will not only weaken the effectiveness of the regulation but will also distort industry structure and competition.

CONCLUSION

This chapter provides a basic introduction to some of the more important economic aspects of television programming. An understanding of the market forces and incentives that influence the behaviour of broadcasters is a prerequisite for the detailed analysis of programming regulation that are presented in subsequent chapters. It also helps explain the impact and limitations of regulatory instruments on market behaviour.

The chapter explores the micro-foundations of consumer demand and valuation of television programming. It introduces the concept of willingness to pay that forms the basis of the valuation of benefits from domestic content regulation in later chapters. The chapter also reviews the concept of a cultural discount that helps explain why some programs are more successful than others in the international market for film and television programs. As part of that review, an algebraic generalisation of the original work by Hoskins and Mirus (1988) was developed.

---

7 Channels predominantly devoted to drama are required to use 10 per cent of their program expenditure on domestic programs. The legislation binds the government to a review, before July 1997, of whether the limit should be increased to 20 per cent.
CHAPTER 3 MODEL OF BIAS AND MARKET FAILURE IN TELEVISION PROGRAMMING

INTRODUCTION

The analysis presented in this chapter examines the principal factors that influence program supply choices of broadcasters in response to the demands of both audiences and advertisers. It also examines the impact of the programming choices on social welfare. The principal objective is to present a theoretical framework to assess the occurrence of bias and market failure in the commercial (i.e. advertiser-financed) television market. The analysis is partly based on the approach of traditional program choice models.

Starting with Steiner (1952), the early traditional models were concerned mainly with explanations of the observed limited diversity in broadcasting programming. Some of the later models (e.g. Spence and Owen (1977) and Waterman (1989/90)) have examined welfare implications of television programming under different industry structures. While at least one model (Wildman and Owen 1985) acknowledged that television programming has both private consumption as well as political and cultural values, the primary focus of most models has been on analysis of the efficiency of different industry structures to maximise program diversity.

The political and cultural benefits of television programs are deemed to accrue mainly as externalities to the private consumption of the programs. The capacity of the market to take account of such externalities is one of the main areas of concern of this research. Building upon the traditional approaches to program choice, a new framework is developed in this chapter to illustrate and analyse deviations from the welfare optimum that result from programming decisions of commercial broadcasters. In doing so, the methodology helps to explain the observed bias of commercial broadcasters against some forms of domestically produced programs.

REVIEW OF PROGRAM CHOICE MODELS

The early program choice models developed by economists were predominantly concerned with how well free-to-air broadcasting performed in the public interest and the related policy implications. In particular, the models focused on developing explanations for the observed tendency of competing, advertiser-financed broadcasters to supply similar types of programs targeted at mass audiences rather than programs catering to a diversity of tastes. Most of this research was concerned with the relation between diversity of programming output and the institutional structure of the industry.
This line of research traces its origins to Steiner (1952) who adapted the spatial competition analysis of Hotelling (1929) to model the behaviour of advertiser-financed broadcasters. Steiner’s model was based on a set of restrictive assumptions and the results are highly dependent on them. The model was based on a single period analysis, ignored program costs and assumed: highly skewed, uni-modal, audience preferences; non-viewing as the only choice when first preference is not available; competing programs of the same type (e.g. sports programs) share the available audience equally; limited channel capacity; and, maximisation of audience by broadcasters.

Audience maximisation for a given number of channels provided a simple, but narrow, welfare criterion for comparison of the outcomes from the two alternative industry structures analysed, namely, a monopolist controlling all channels or competitors controlling one channel each. Intensity of preference for a program type was ignored and each individual choosing a program was assumed to derive the same level of benefit as every other member of the audience.

In such a situation, a discriminating monopolist controlling all the available channels would schedule a different type of program on each channel aimed at attracting different audience groups. Overall the monopolist would aim to maximise the aggregate audiences generated by the channels and minimise programming costs. Duplication of program types would be avoided. Programming on additional channels would be provided only if the resultant increase in total audience was able to generate sufficient revenue to cover the associated increase in cost. If there were insufficient channels to accommodate all ‘profitable’ program types, programming to fill the available channels would be chosen in order of its marginal contribution to profits.

A competitive broadcaster controlling a single channel would be concerned only with maximising the audience of that channel. Such a supplier would be prepared to duplicate a program broadcast on another channel if the gained share of the overall audience for that type of program was larger than the available audience for an alternative program. On this basis, Steiner’s model predicts that a discriminating monopolist would be likely to deliver greater program diversity than rivalrous competitors.

Steiner’s conclusion is valid only if non-viewing is preferable to viewing a less desirable second choice when the preferred type of program is not available.

Rothenberg (1962), in a brief extension of the Steiner model, assumed that viewers would choose to watch a common second preference if their first choices were not available. Under such circumstances, program duplication by competing broadcasters becomes even more attractive than predicted by the Steiner model. A monopolist, on the other hand, would supply only a single channel carrying the common second choice programming.

Rothenberg also examined the effect of removing the limited channel constraint of Steiner’s model. In that regard he concluded that viewer satisfaction would not be adversely affected by duplication of popular programs. In the Steiner model, because of the limited number of available channels, the use of a channel to duplicate a popular
program could be implemented only by the displacement of a minority program. Unlimited channels removed the tradeoff between duplicate and minority programs and meant that additional channels would always be available to cater for minority profitable programs.

Wiles (1963) used a series of examples to test the proposition that “under the relationships between cost and revenue obtaining for TV, minimum differentiation is most profitable to an oligopoly or monopoly, maximum differentiation to a polypoly”

(p. 186). The article was intended as a critique of the recommendations of an official inquiry into broadcasting in the United Kingdom. The examples assumed that: (i) there were four potentially profitable minority programs, one unprofitable program and an indefinite number of mass programs; (ii) audience satisfaction was measured in terms of interpersonally additive willingness to pay; (iii) the minority audience would always choose a minority program, if available, but all consumers prefer a mass program to non-viewing and value it equally; and (iv) profit was defined as the difference between willingness to pay and the cost of the program. The results were sensitive to his specific assumptions but indicated that program patterns were affected by different industry structures, channel capacities and financing arrangements.

Beebe’s (1977) more generalised simulation model retained the institutional framework of the Steiner model, but allowed for viewing of lesser preferred substitute programs. The model also used varying assumptions for program costs and channel capacities. Three different patterns were used to depict viewer choices (watch first choice only; unique second choice; common denominator lesser choice) and distribution of viewer preferences (highly skewed; skewed; nearly rectangular). The implications of the model were described in terms of the number of preferred choices satisfied, the size of the total audience, program diversity, the number of channels used, and the amount of program duplication. These were then used to compare the outputs of monopolists and competitors, and to draw inferences about consumer and total surplus from the ordinal preferences of viewers.

Beebe’s analysis demonstrated that, while the Steiner results of superior performance by a monopolist are true in the special case defined by the associated restrictive assumptions, they do not hold in general. For advertiser-financed television with limited channel capacity, Beebe’s results indicated that, without empirical measures of preferences, it is not possible to determine whether monopoly or competition produces the greater consumer surplus. Similarly, the model indicated that empirical measures of program costs and advertising revenues are necessary for unambiguous comparisons of total surplus. For unlimited channel capacity, the model predicted that competition would always generate a higher level of consumer surplus. However, an unambiguous case for the superiority of competition in maximising total surplus could not be made without supporting empirical evidence.

---

1 He described ‘polypoly’ as “a more ‘perfect’ type of competition than oligopoly”. The two polypoly examples related to industry structures with 10 and 7 profit maximising rivalrous channels.

Spitzer (1991) applied Beebe's framework to an empirical evaluation of minority preferences policies in the granting of broadcasting licences by the Federal Communications Commission in the United States. Those policies are based on the theory that minority broadcasters will adopt a different mix of programs than majority broadcasters. However, Spitzer's analysis did not reveal strong evidence in support of the theory.

Traditional program choice models, such as the above, have tended to focus on developing explanations for the program options offered to viewers under different industry structures, channel capacities and financing arrangements. Generally, the models assume viewers have ordinal preferences over programs and have ignored the intensity of the preferences. While they have produced some interesting and valuable conclusions, the models are not very useful for comparisons of economic welfare implications of different programming outcomes.

Specific welfare considerations were first incorporated in program choice models by Spence and Owen (1977). They examined the effects of limited and unlimited channels on the outputs of advertiser financed television and of pay television. Their model adopted viewer demand functions and used total surplus (gross dollar benefits of a program minus its supply cost) to compare economic welfare in each of the four possible cases with each other and with the optimum. Externalities, such as cultural benefits arising from viewing, were ignored. The model also assumed that a dollar paid for advertising was welfare equivalent to a dollar of benefit derived by a viewer from watching a program.

Spence and Owen demonstrated that both pay and advertiser-financed television have inherent biases against certain types of programs. "These biases result in the absence from the market of programs that 'ought' to be produced, in the sense that their marginal benefits exceed their marginal costs." (p. 122) Since pay television takes at least partial account of intensity of preferences its biases are not as strong as those prevailing under a competitive, advertiser-financed structure. The programs likely to be affected are programs with small audiences, minority taste programs (with high preference intensities) and higher cost programs generating the same or higher net welfare than lower cost programs. For pay television, a monopoly not engaging in perfect price discrimination, performs worse than competition. For advertiser-financed television, a monopoly produces fewer programs but is subject to the same biases as competition. The Spence and Owen model was extended by Wildman and Owen (1985) to examine the effects of competition in situations where pay and advertiser-financed services compete with each other.

Noam (1987, 1991) adopts public choice techniques reminiscent of the earlier Steiner type models to consider the political tradeoffs as well as the economic effects of regulation. Noam assumes that each program may be defined by its cultural 'pitch' which can be used to locate the program in a one dimensional space extending from

---

3 Minority was defined in terms of race and gender.
‘low’ to ‘high’ culture. Each viewer has a most preferred pitch and will watch a program with that pitch, if available, in preference to any other program. In the absence of a preferred program, the likelihood that a viewer will watch a less preferred program declines with increased distance from the preferred pitch. Viewer tastes are assumed to be normally distributed. Noam shows that a single channel profit maximising advertiser-financed monopolist chooses programs that maximise audience. On the other hand, a government controlled single channel can be shown to maximise government policy goals. In multi-channel situations, the spread of programming pitches widens with increased competition. As with the earlier models, the results are sensitive to the model’s assumptions on audience preferences (Garber 1987).

Waterman (1989/90) investigated the tradeoffs between quality and diversity by extending Salop’s (1979) model of monopolistic competition in a circular product space, which in turn is a variant of Hotelling’s (1929) model of spatial competition. Although Waterman’s model leads to the conclusion that pay television tends to produce a greater program diversity than advertiser-financed television, the findings are not totally consistent with those of Spence and Owen (1977). In the Waterman model, the tendency holds only when individuals pay a price for pay television that exceeds the advertising rate per viewer paid by advertisers. Waterman also finds that broadcasters have a tendency to underinvest in product quality, relative to the welfare optimum, and that a shift from advertiser to pay financing of television leads to higher product investment levels and not necessarily to greater product variety. As with other models, Waterman notes that the results may be dependent on the specifications of the consumer utility function.

Other recent applications have extended program choice models to considerations of inter-temporal dimensions of programming. These include considerations of tradeoffs between program variety quality by Waterman (1989/90), consideration of program repetition by Wildman and Lee (1989) and Waterman’s (1992) consideration of the continued popularity of broad appeal programming in expanding media markets, including narrowcasting media.

**MODELLING PROGRAM CHOICE**

A television program may be considered, in Lancastrian terms, as providing a collection of characteristics or properties that are sought and consumed by viewers and give rise to utility (Lancaster 1966). Television programs possess many characteristics, some of which may be shared between programs. No two programs, however, are exactly alike. Programs are chosen by viewers on the basis of their utility-enhancing characteristics. Although television programs come in a great variety, viewer preferences for the properties of programs are seldom perfectly satisfied.

---

4 Low and high culture were defined on the basis of the terminology used by Gans (1974).
Television viewing involves the use of leisure time. A decision to watch a television program, in preference to some other substitute activity, therefore, implies that an individual is gaining a consequential utility improvement from the re-allocation of time. Thus, the related utility function of an individual may be expressed in terms of the time allocated to television viewing, that allocated to substitute activities, and the relative prices of substitute activities. Such a utility function would be in the form:

\[ U = U(Z(\kappa), t, p) \]

where, \( Z \) and \( t \) are the times devoted to television viewing and to substitute activities respectively, and \( p \) is a vector of prices of the substitute activities.

The values of \( Z \) and \( t \) are complementary to each other such that an increase in the time devoted to television viewing leads to an equivalent decline in the time devoted to other activities (or vice versa). The total time available for television viewing and substitute activities \( (T) \) is fixed (i.e. \( Z + t = T \)). The vector \( \kappa \) represents the characteristics of television programs sought by viewers. An individual’s \( Z \) increases with increases in the quantity of each of the characteristics sought by viewers (i.e. \( dZ/d\kappa > 0 \)). The individual’s problem is to choose \( Z \) to maximise utility subject to the time and leisure budget constraints.

The subsequent model considers a single program time slot to examine how television operators select programs to fill the slot. The industry is assumed to comprise a number of monopolistically competitive broadcasters each controlling a single channel. The model is partly based on Waterman (1989/90) but extends that model to incorporate a program’s breadth of appeal as well as viewers’ intensity of demand for a program.

Following Salop (1979) and Waterman (1989/90) the product space for the broadcast television industry is taken to be an infinite line or a circle of unit-circumference. Potential viewers are distributed uniformly along the line (or the circumference of the circle) such that each occupies a distinct position determined on the basis of an arbitrarily chosen rank order. The basis of the rank ordering is not important and could reflect, for example, program preferences from ‘low’ to ‘high’ culture as in Noam (1987) or a given combination of attributes (Lehmann 1971). The rank ordering implies that an individual at any point on the line representing product space will have similar preferences to those of the adjacent individuals. Differences in preferences for program characteristics increase with distance between individuals. The number of available programs \( n \) is small relative to the number of potential viewers. The \( n \) programs are also assumed to be uniformly distributed in the product space.

Each of the \( L \) potential viewers can consume only a single program at any one time and, in so doing, faces an opportunity cost \( w_o \) of not pursuing an alternative activity. Each viewer has a most preferred program specification \( X^* \). Any other program \( X_i \) would be valued less than the most preferred program. The utility that a viewer derives from a

---

5 In some cases, a pecuniary expenditure may also be involved (e.g. pay and pay-per-view television).
program declines with the distance in product space between that program and the most preferred program \(|X_i - X^*|\). Thus the viewer’s utility \((U_i)\) of consuming a program may be expressed as a function of \(|X_i - X^*|\) namely, \(U_i = U(|X_i - X^*|)\). If viewing of a program is subject to a price \(p_i\), the viewer’s decision rule in choosing a single program from those that are available becomes:

\[
\text{Max}_i [U(|X_i - X^*|) - \lambda p_i] \geq w_0
\]

(Note: \(\lambda\) is a Lagrangean multiplier; \(p_i = 0\) for free-to-air television).

Assuming the existence of a continuous function \(f(|X_i - X^*|)\), an individual’s valuation of a program \((v_i)\) relative to that of the most preferred program \((v_0)\) may be expressed as:

\[
v_i = v_0 f(|X_i - X^*|), \quad dv_i/d(|X_i - X^*|) < 0, \quad \text{where } 0 \leq f(|X_i - X^*|) \leq 1.
\]

Utilising this, equation (1) may be re-written as follows (assuming \(\lambda=1\) for simplicity):

\[
\text{max}_i [v_i - p_i - w_0] \geq 0,
\]

or

\[
\text{max}_i [v_0 f(|X_i - X^*|) - (p_i + w_0)] \geq 0.
\]

An individual’s valuation of television programs based on these concepts is illustrated in figure 3.1.

**Figure 3.1: Individual Valuation of Television Programs**

In the figure, product space is depicted as an infinite horizontal line \(X_i\). The individual’s most preferred program is situated at \(X^*\) and has a value of \(v_0\) (measured vertically) to the individual. All other programs on either side of \(X^*\) (for example \(X_1\) and \(X_2\)) are less valued as shown by \(v_i = v_0 f(|X_i - X^*|)\). All programs located between \(X_a\) and \(X_b\) are valued more than their cost to the individual (including the opportunity cost of foregoing the next most valued alternative activity).
Now consider the valuation of a given program by all potential viewers in program space. It is assumed that the individual whose preferences are ‘best’ matched by a given program has the highest valuation for it. The valuation of others decreases as the absolute distance in product space ($\alpha$) between the location of the individual ($a_i$) and that of the best matched individual ($a^*$) increases (i.e. $\alpha = |a_i - a^*|$). It should be noted that the location of each individual in product space coincides with the location of that individual’s most preferred program specification and that in a unit circumference product space $0 \leq \alpha \leq 1/2$.

Considerations of aggregate demand also need to take account of the breadth of appeal ($\beta$) that a program enjoys among potential viewers. The breadth of a program’s appeal affects the rate at which the valuation of potential viewers decreases with increasing distance from the best matched viewer. For example, the valuation of specialised programs (narrow appeal) would be expected to decline more rapidly than that of a broad appeal program as distance from the best matched individual increases. For any given program, $\beta$ is a constant.

It is further assumed that $f(V_o, \alpha, \beta)$ is a continuous function that plots an individual’s valuation of a particular program ($V_i$) relative to the program’s valuation by the best matched individual ($V_o$) such that:

$$V_i = f(V_o, \alpha, \beta), \quad dV/d\alpha < 0, \quad dV/d\beta > 0,$$

where $V_o =$ Value of program to the best matched individual.

As illustrated in figure 3.2, the net valuation of a program when a price $p_i$ is charged for viewing is $V_i = f(V_o, \alpha, \beta) - p_i$.

**Figure 3.2: Aggregate Valuation of Television Programs**

To watch a program, individuals incur an opportunity cost ($w_0$) equal to the value to them of the next best allocation of their time. Individuals may also incur a pecuniary cost...
(p_i) to gain access to a program. For simplicity, both costs are assumed to be the same for all individuals\(^6\). Only individuals with a net valuation (i.e. valuation less \(p_i\)) for a program greater than \(w_0\) would consume that program. As illustrated in figure 3.2, the program’s audience would include all the individuals located between \(X_m\) and \(X_n\). The consumer surplus generated by the program is represented by the area bounded by the program valuation curve (\(V_i\)) and the horizontal line through \(w_0\).

### PARAMETERS OF THE MODEL

The model developed here draws upon Salop’s model of monopolistic competition and its extension by Waterman. Both Salop and Waterman make use of a linear consumer utility function (declining with distance from ideal location) and fixed set up costs to investigate the relationship between fixed costs, consumer demand and product variety. By expanding the linear utility function with a multiplicative term for variable set up costs, Waterman also examined the tradeoffs between variable costs and product variety in both a price, and a non-price, support television regime. This model extends the earlier developments by introducing the concept of a program’s breadth of appeal, as well as considerations of external benefits that may accrue from the consumption of cultural products.

One of the model’s basic differences with the Salop/Waterman approach is the adoption of a quadratic, rather than a linear, utility function. A quadratic utility function has been adopted by several authors including D’Aspremont, Jaskold-Gabszewicz and Thisse (1979), Neven (1985), Ben-Akiva, de Palma and Thisse (1989), and Economides (1989) and its underlying assumption is that utility declines with the square of the distance from the individual’s preferred product specification. As observed by Neven (1985), it seems reasonable to assume that disutility of consuming a less preferred product increases at an increasing rate with distance from the most preferred product. The utility function is defined as:

\[
U_{ij} = V_j^* - af(\beta)x_{ij}^2
\]

where \(a\) is a parameter \((a > 0)\), \(f(\beta)\) is a function that reflects the degree of specialisation of a program (the inverse of its breadth of appeal), and the distance from the most preferred program \(x_{ij}\) can take any value.

Following Salop/Waterman, the model assumes a monopolistically competitive television industry comprising \(n\) broadcasters each controlling a single channel. The industry’s product space is the circumference of a circle (or an infinite line) normalised to one. There are \(L\) consumers (viewers) who are distributed evenly in product space and each occupies a distinct position. An individual’s location is denoted as \(x_i\) (\(i = 1, ..., L\)). Each individual can consume only one program at any given time. Each has a most preferred program specification, defined by that individual’s location in product space. Any other

---

\(^6\) In the case of free-to-air television a viewer faces only an opportunity cost.
program is less preferred and is less valued depending on its distance from the most preferred program in accordance with the individual’s utility function. The broadcasters (and thus their programs) are evenly distributed in product space and are located at a distance 1/n from each other. The location of a program \( X_j \) is denoted as \( x_j \) (\( j = 1, \ldots, n \)).

### PRICE COMPETITION CASE

Consider the product space between two adjacent pay-per-view (with no advertising) television programs, \( X_j \) and \( X_{j+1} \), sold at prices \( p_1 \) and \( p_2 \) respectively, and located at \( x_1 \) and \( x_2 \). The location of an individual who is just indifferent between the two programs is denoted by \( x \). Thus, the individual is at a distance \( (x - x_1) = x \) from \( X_j \) and \( (x_2 - x) = (1/n) - x \) from \( X_{j+1} \). The situation is illustrated in figure 3.3.

**Figure 3.3: Indifference for Two Adjacent Programs**

Initially we consider the case where \( V_j = V \) for all programs. Thus, for the marginal consumer,

\[
V - af(\beta)x^2 - p_1 = V - af(\beta)((1/n) - x)^2 - p_2.
\]

hence,

\[
x = \frac{(1/af(\beta))( p_2 - p_1) + (1/2n)}.
\]

Assuming that program costs are fixed and are the same for all programs, the profit \( \Pi_1 \) accruing to the broadcaster of program \( X_1 \) is given by the product of the program’s price and number of viewers\(^7\) attracted to the program less the cost of the program \( C \):

\[
\Pi_1 = 2p_1Lx - C.
\]

\(^7\) Note that because of the symmetry of the model, the market for \( X_1 \) extends to a distance \( x \) in product space on either side of the program. Thus, the number of viewers is given by 2x times the density of viewers per unit of distance (L).
Substituting for $x$ gives:

$$\Pi_1 = 2p_1L[(1/af(\beta))(p_2 - p_1) + (1/2n)] - C.$$  

The first order condition for profit maximisation with respect to $p_1$ is:

$$p_1 = (1/2)[p_2 + (af(\beta)/n^2)]. \quad (5)$$

Similarly, the profit of the second broadcaster is given by:

$$\Pi_2 = 2p_2L[(1/n) - x] - C. \quad (6)$$

After substituting for $x$ and differentiating with respect to $p_2$:

$$p_2 = (1/2)[p_1 + (af(\beta)/n^2)]. \quad (7)$$

Substituting $p_1$ into $p_2$ and solving for both gives:

$$p_1 = p_2 = (af(\beta)/n^2).$$

Thus, the point of indifference occurs at a distance $x = (1/2n)$ from program $X_1$.

Assuming free entry to the industry, the profits of all firms will be competed down to zero. Because of the symmetry assumption in the model, the profit expressions above are those for a representative firm. Setting them equal to zero and solving for $p$ and $n$ gives:

$$n_c = (af(\beta)L/C)^{1/3} \text{ and } p_c = (af(\beta)C^2/L^2)^{1/3}. \quad (8)$$

Although the use of a quadratic utility function naturally leads to different values for $n_c$ and $p_c$ than those of Waterman, the relationships he noted, namely, the higher the fixed cost, $C$, the higher the price, $p$, and the lower the variety, $n$, continue to hold. As would be expected, the expressions also indicate a higher variety and lower price with higher viewer density, $L$. The parameter $a$ is a scalar that could be set to unity without loss of generality. The degree of specialisation $f(\beta)$ affects the rate at which utility declines with distance from the most preferred program. Both $n_c$ and $p_c$ increase with $f(\beta)$.

**NON-PRICE COMPETITION CASE**

For television programs, non-price competition is a reality in commercial systems supported solely from advertising revenue. In such a case, the condition of indifference for the marginal consumer located between programs $X_1$ and $X_2$ may be derived directly from the above by setting prices equal to zero. Thus:
\[ V - af(\beta) x^2 = V - af(\beta) \left( \frac{1}{n} - x \right)^2, \]  
which leads directly to the solution:

\[ x = \frac{1}{2n}. \]

In this case, profit for the first broadcaster is:

\[ \Pi_1 = 2rLx - C, \]

where \( r \) is the market-set advertising rate paid per unit of audience. Hence,

\[ \Pi_1 = \left( \frac{1}{n} \right) rL - C. \]

Utilising symmetry and zero profit conditions gives:

\[ n_a = \frac{rL}{C}. \]

This indicates that variety increases with a higher advertising rate and decreases with higher costs. The conditions for variety under price support \( (n_c) \) to exceed that under advertiser support \( (n_a) \) are the same as for the Waterman case and require that:

\[
\left[ af(\beta)L/C \right]^{1/3} > rLC \\
\left[ af(\beta)C^2/L^2 \right]^{1/3} > r. 
\]

That is,

\[ p_c > r. \]

There is some support for such a conclusion from real world situations. The price charged for access to pay television services is substantially more than the ruling television advertising rate. However, pay television services generally provide a substantially larger variety of programs than that available from advertiser-financed systems.

It should be noted here that, in contrast to the price competition case, the program’s breadth of appeal does not influence product variety. However, this is a direct result of the assumed symmetric distribution of programs in product space.
WELFARE COMPARISONS

The total welfare $W$ generated by all the programs is equal to the total consumer surplus less the cost of the programs. Thus,

$$W = 2\ln \int_{0}^{\frac{1}{2\pi}} (V - af(\beta)x^2 - p)dx - nC$$

(14)

$$= L(V - p - af(\beta)n^{-2})/12 - nC.$$

The first order condition for maximisation with respect to $n$ gives:

$$n^* = \left[\frac{af(\beta)L}{6C}\right]^{1/3} < n_c.$$

(15)

This means that program variety in a price support television system exceeds variety at the welfare optimum. The results are dependent on the assumed utility function and on the distribution of consumers and preferences. As pointed out by Salop (1979), the use of any utility function that is concave in distance will produce the same result when applied to a uniform distribution of consumers.

CHOICE BETWEEN PROGRAMS

So far the model has been applied to a free entry situation with a symmetric distribution of programs. Programs with closely related characteristics are inherent in such situations. In more realistic situations, entry to the industry may be restricted and programs with substantially different characteristics and breadth of appeal are likely to prevail. Some such situations are now examined with the model.

Assume that the market comprises only two television channels and that only two program types are available. The supply of programs of each type is not restricted and both channels may choose to broadcast the same type of program. The breadth of appeal of the two program types is different. The degree of specialisation $f(\beta_i)$ of the programs is assumed to be equal to $1/\beta_i$, the inverse of the program’s breadth of appeal. Each consumer in the market can watch only one program irrespective of the number supplied. The programs partly overlap each other in product space. Thus, some viewers are provided with two choices, both of which are valued positively by the viewers located in the overlap zone. The net value of a program to a viewer is equal to the viewer’s valuation of the program minus the cost, if any, of gaining access to the program. In the zones where only one program is valued positively, non-supply of that program results in potential viewers selecting an alternative activity to watching television. Both programs are assumed to cost the same to supply.

---

8 Producer surplus is bid to zero by the free entry condition in the model.
The aim of this exercise is to examine whether monopoly or competitive control of the two channels generates the more diverse programming outcome. To determine the respective audiences attracted by the two programs when both are available, we need to identify the marginal viewer in the overlap zone (individual X in the figure at distance x from program type 1 centred on X1). The price of viewing is assumed to be the same for both programs. The situation is illustrated in figure 3.4.

Figure 3.4: Choice Between Two Programs

A marginal viewer, who would be just indifferent between the two programs, is located at a distance \( x_1 = x \) from \( X_1 \) and \( x_2 = d - x \) from \( X_2 \) (where \( d \) is the distance between the two programs in product space). Thus,

\[
V - (1/\beta_1)x^2 - p = V - (1/\beta_2)(d - x)^2 - p
\]

\[
(\beta_1 - \beta_2)x^2 - 2 \beta_1 dx - \beta_1 d^2 = 0.
\]

Hence,

\[
x = d/[1 - (\beta_2/\beta_1)^{1/2}] \text{ or } d/[1 + (\beta_2/\beta_1)^{1/2}].
\]

The desired solution is \( x = d/[1 + (\beta_2/\beta_1)^{1/2}] \). It ensures that \( x < d \). The alternative solution with \( x > d \) would be equivalent to having the second program appeal only to a subset of the audience of the first program. In such a case, a monopolist controlling both channels would never supply the second program.

A monopolist controlling both channels would choose to supply the program with the widest appeal (\( X_1 \)) on the first channel. The supply of \( X_2 \) on the second channel would occur only if it generates a net increase in the monopolist’s overall profit from both channels. In this context, profit is defined as revenue from a program (charges to

---

9 This allows consideration of both pay and advertiser support situations. In the latter case price of both programs to viewers is zero.
viewers or advertisers) less the cost (C) of the program, including transmission cost. Denoting the monopolist’s profit as $\Pi^m_i$, where the subscript refers to the program, the profit from program $X_1$ in the absence of program $X_2$ is:

$$\Pi^m_1 = 2p[(V - p)\beta_1]^{1/2} - C.$$  (18)

If both programs are supplied, profit would be:

$$\Pi^m_{12} = p[(V - p)\beta_1]^{1/2} + p[(V - p)\beta_2]^{1/2} + pd - 2C$$
$$= p\{(V - p)\beta_1]^{1/2} + [(V - p)\beta_2]^{1/2} + d\} - 2C.$$  (19)

Program $X_2$ will be supplied only if $\delta\Pi^m = \Pi^m_{12} - \Pi^m_1 \geq 0$

$$\delta\Pi^m = p\{(V - p)\beta_1]^{1/2} + [(V - p)\beta_2]^{1/2} + d\} - 2C - \{2p[(V - p)\beta_1]^{1/2} - C\}$$  (20)

that is,

$$p[(V - p)^{1/2}(\beta_1^{1/2} - \beta_2^{1/2}) + d\} - C \geq 0.$$  (21)

Hence,

$$d_m \geq C/p + (V - p)^{1/2}(\beta_1^{1/2} - \beta_2^{1/2}).$$  (22)

If the two channels are controlled by two competitive suppliers, the second supplier has to choose which of the two programs it will supply in competition to $X_1$ on the first channel. The alternative making the greater profit contribution to the supplier will be selected. The competitor’s profit from supplying $X_2$ would be:

$$\Pi^c_2 = p[(V - p)\beta_2]^{1/2} + p\{d - d/\{1+(\beta_2/\beta_1)^{1/2}\}\} - C$$
$$= p[(V - p)\beta_2]^{1/2} + d(\beta_2/\beta_1)^{1/2}/[1+(\beta_2/\beta_1)^{1/2}] - C.$$  (23)

Alternatively, a second $X_1$ program could be supplied and attract half of the audience away from the already supplied $X_1$. Profit from this would be:

$$\Pi^c_1 = p[(V - p)\beta_1]^{1/2} - C.$$  (24)

Thus for the competitor to choose $X_2$, $\Pi^c_2 \geq \Pi^c_1$

$$p[(V - p)\beta_2]^{1/2} + d\{\beta_2/\beta_1\}^{1/2}/[1+(\beta_2/\beta_1)^{1/2}] - C \geq p[(V - p)\beta_1]^{1/2} - C.$$  (25)

Collecting terms and simplifying leads to:

$$d(\beta_2/\beta_1)^{1/2} \geq [(V - p)^{1/2}(\beta_1^{1/2} - \beta_2^{1/2})/1+(\beta_2/\beta_1)^{1/2}].$$
Hence,
\[ d_e \geq (V - p)^{1/2}(\beta_1^{1/2} - \beta_2^{1/2})[1 + (\beta_1/\beta_2)^{1/2}] \]  
(26)

Comparing (22) and (26), it is evident that:
\[ d_e \geq [d_m - C/p] + (V - p)^{1/2}(\beta_1^{1/2} - \beta_2^{1/2})(\beta_1/\beta_2)^{1/2} \]  
(27)

For competition to be less efficient than monopoly in supplying two different programs would require \( d_c \) to be larger than \( d_m \) (i.e. \( d_c - d_m > 0 \)). The conditions for this to occur may be derived from (27) as follows:
\[ d_c - d_m \geq -C/p + (V - p)^{1/2}(\beta_1^{1/2} - \beta_2^{1/2})(\beta_1/\beta_2)^{1/2} \geq 0, \]
which can occur only if:
\[ (V - p)^{1/2}(\beta_1^{1/2} - \beta_2^{1/2})(\beta_1/\beta_2)^{1/2} \geq C/p \]
\[ [(V - p)\beta_1]^{1/2}[(\beta_1/\beta_2)^{1/2} - 1] \geq C/p. \]  
(28)

This is equivalent to:
\[ R_1[(\beta_1/\beta_2)^{1/2} - 1] \geq 2C. \]  
(29)

where, \( R_1 = 2p[(V - p)\beta_1]^{1/2} \) is the revenue generated by program \( X_1 \) if it is the only program supplied in the market (note, \( \beta_1 > \beta_2 \) from assumptions)\(^{10} \).

The results confirm expectations that the likelihood of competition generating less program diversity than monopoly increases with differences in the breadth of appeal of the programs. As such, they highlight the bias of competitive broadcasters against minority appeal programs. These outcomes are consistent with conclusions of Steiner type models that predict greater diversity of programming with monopoly control when audience preferences are skewed (i.e. when \( \beta_1 \) is much larger than \( \beta_2 \)). It should be noted that the model predicts greater diversity for monopoly for a restricted set of conditions. Under other conditions, namely \( R_1[(\beta_1/\beta_2)^{1/2} - 1] < 2C \), competition is likely to generate the more diverse programming outcome. However, those conditions are likely to arise when the available programs have similar breadths of appeal to viewers. In other words, the programs are likely to be close substitutes appealing to the same audience. It should also be noted that the results apply to both pay and advertiser-financed broadcasters. In the latter case, the value of \( p_i \) in the viewer's net valuation of a program is zero and is replaced by the rate paid by advertisers in the profits expressions.

\(^{10}\) When the programs do not overlap, we have the simple case of monopolist control always supplying both types of programs and competition supplying both types of programs only if the \( 4\beta_2 > \beta_1 \).
Another type of programming bias arises specifically from the advertiser financing arrangements of commercial television. The absence of a price mechanism linking broadcasters and viewers means that the intensity of demand for programs is not considered fully in the programming decisions of broadcasters. To illustrate this type of bias, we consider two programs, both of which generate audiences of equal size, but one of them is valued more highly than the other by its audience. The viewers’ utility functions from the two programs may be expressed as follows:

\[ U_1 = V - \frac{1}{\beta}x^2 \quad \text{and} \quad U_2 = (1 + q)[V - \frac{1}{\beta}x^2], \]  

(30)

where \( q > 0 \).

The situation is illustrated in figure 3.5:

**Figure 3.5: Difference in Intensity of Viewer Preferences**

A broadcaster faced with a choice between the two programs illustrated in figure 3.5 would be indifferent between them. Both generate the same audience (all the individuals located within a distance of \((V\beta)^{1/2}\) on either side of the program’s location) and thus the same advertising revenue. Because the cost of the two programs are assumed to be equal, profits are also equal. However, they generate different levels of welfare.

The welfare generated by the first program is given by:

\[ W_1 = 2L \int_0^{(V\beta)^{1/2}} (V - \beta^{-1}x^2)dx + 2rL(V\beta)^{1/2} - C \]

(31)

\[ = \frac{4}{3}LV^{3/2}\beta^{1/2} + 2rL(V\beta)^{1/2} - C. \]

(32)

Similarly, the welfare of the second program is given by:
\[ W_2 = 2L \int_0^{\phi^{\beta/2}} (1 + q)(V - \beta^{-1}x^2)dx + 2rL(V\beta)^{1/2} - C \]  
(33)

\[ = (4/3)(1 + q)LV^{3\beta/2} + 2rL(V\beta)^{1/2} - C. \]  
(34)

Since \( q > 0 \), \( W_2 > W_1 \) and consequently program 2 should be preferred to program 1. Indeed, even if program 2 were to cost more than program 1, it should continue to be preferred so long as the cost difference between the two programs is less than \( (4/3)qLV^{3\beta/2} \). This finding helps explain the observed tendency of free-to-air broadcasters to favour so-called common denominator programs (i.e. programs with wide breadth of appeal) in preference to specialised programs for which smaller audiences may have high intensity of demand\(^{11}\).

**INTEGRATING EXTERNALITIES**

The consumption of a culturally relevant domestic program is deemed to provide benefits not only to those who watch the program, but indirectly also to other members of society. The benefits to society accrue in the form of positive externalities which should be included in considerations of the total welfare generated by a program. The level of benefit derived by society will be different for different programs. However, since consumption of a program is a prerequisite for the accrual of cultural benefits to society (both viewers and non-viewers), it would not be unreasonable to assume that the level of such benefits \((E)\) is a function of the cultural value of the program \((\phi)\) and audience size \((n = Lx)\). That is:

\[ E = f(\phi, n) \quad dE/d\phi > 0 \quad dE/dx > 0 \]

This implies that viewers of a domestic program derive private entertainment and informational value from the direct consumption of any program, irrespective of the program's origin. In addition, the consumption of domestic programming is also an indirect source of cultural benefits to non-viewers and is valued by society at large. The larger the audience of a domestic program the greater are the benefits derived by society. In practical terms, this is equivalent to society having a higher intensity of demand for the culturally relevant programs. The problem, therefore, is essentially the same as the one discussed above with relation to broadcasters' incomplete consideration of viewers intensity of preferences for programs.

Considering the 'societal' benefits accruing from private consumption, the societal utility functions of a foreign program and of a domestic program, which is equal in all respects other than country of origin to the foreign program, may be expressed as follows:

\[ U_{sf} = V - (1/\beta)x^2 \quad \text{and} \quad U_{sd} = (1 + e)(V - (1/\beta)x^2), \]  
(35)

\(^{11}\) Note that this depends on the simplified assumption that the price of advertising is a function of audience size only. The result would need to be modified to take account of audience characteristics that may influence the price of advertising.
where: \( e > 0 \) is an analytical construct representing the external utility multiplier of the domestic program for the purpose of the model; 
s denotes societal utility; and 
the subscripts \( f \) and \( d \) denote foreign and domestic, respectively.

The social welfare derived from the foreign program is given by:

\[
W_{sf} = 2L \int_0^{(V\beta)^{1/2}} (V - \beta^{-1}x^2)dx + 2rL(V\beta)^{1/2} - C \tag{36}
\]

\[
= (4/3)LV^{3/2}\beta^{1/2} + 2rL(V\beta)^{1/2} - C, \tag{37}
\]

and that derived from a domestic program is given by:

\[
W_{sd} = 2L \int_0^{(V\beta)^{1/2}} (1 + e)(V - \beta^{-1}x^2)dx + 2rL(V\beta)^{1/2} - C \tag{38}
\]

\[
= (4/3)(1 + e)LV^{3/2}\beta^{1/2} + 2rL(V\beta)^{1/2} - C. \tag{39}
\]

Consequently, the domestic program should be preferred to the imported program so long as any extra cost that may be associated with the domestic program is less than \( (4/3)eLV^{3/2}\beta^{1/2} \). The implications of this finding are similar to those in relation to intensity of preferences discussed above. Also this result implies in-principle support for some form of intervention to ensure an appropriate supply of culturally relevant programming. Decisions about actual support, however, would require knowledge of the type of programs that society considers to be culturally relevant and of the value that society places on such programs. As would be expected, the extent of support that may be justified by a program increases with the level of its cultural relevance \( e \), with viewers’ intensity of demand \( V \) and with the program’s breadth of appeal \( \beta \).

**CHOICE BETWEEN DOMESTIC AND IMPORTED PROGRAMS**

Commercial broadcasters generally will take account only of benefits that influence the viewing behaviour and size of audiences. Consequently, their programming decisions are unlikely to consider indirect benefits accruing to society from the consumption of domestic programs. Thus, broadcasters would appear to be inherently biased against certain types of domestic programming. To the extent that such a bias exists, it is in addition to and exacerbates other program biases that were discussed above. Hence, the type of domestic programs unlikely to be favoured by broadcasters are those that are highly valued by small audiences, or are costly to produce.

In the absence of regulation, a rivalrous broadcaster in a limited channel market would attempt to maximise profits by selecting an appropriate mix of imported and domestically produced programs. The first program selected for the broadcaster’s programming schedule would be the one expected to make the largest possible contribution to profits. The remaining slots would then be filled by sequentially selecting programs in order of
their contribution to profits. An imported program is selected in preference to a domestically produced program only if its marginal profit exceeds that of the domestic program. Such a process is illustrated in figure 3.6. In the figure, \( M\Pi_f \) and \( M\Pi_d \) represent the marginal profits derived from successive units of imported and domestic programs respectively (assumed to be linear for simplicity). Both marginal profit curves are sloped downwards relative to their respective axes, reflecting declining marginal profits as more program units are added to the programming schedule. Units of marginal profits are measured on the two vertical axes, \( \Pi_f \) and \( \Pi_d \). Each slot may be filled by a single program that may be imported or sourced domestically. The quantity of imported, \( Q_t \), and domestic, \( Q_d \), programs included in the programming schedule are measured on the horizontal axis in units of hours. The quantity of \( Q_t \) is measured from left to right and that of \( Q_d \), from right to left. The horizontal distance between the vertical axes represents the fixed number of program slots, \( Q_T = (Q_t + Q_d) \) in a broadcaster's programming schedule for a given time period (say, one day or a week).

Figure 3.6: Choice of Domestic and Imported Programs

\[ \Pi_f \]
\[ \Pi_d \]
\[ Q_1 \]
\[ Q_2 \]
\[ Q_T \]

Quantity of Programs/Program Slots

\( M\Pi_f = \text{Marginal Profit of Imported Programs} \)
\( M\Pi_d = \text{Marginal Profit of Domestic Programs} \)

12 It is assumed that unlimited supplies of profitable domestic and imported programs are available in the market. Hence the two marginal profit curves intersect. The analysis of alternatives when the supply of either is limited would be similar so long as the curves intersect. If the supply of profitable programs is insufficient (or just sufficient) to fill the schedule, the number of programming hours would be reduced to the available supply and all the profitable programs would be included in the schedule.

13 Cave (1989) used a somewhat similar, but less developed diagram to illustrate choice between local and network programs.

14 This is equivalent to the number of hours the broadcaster is transmitting programs; ultimately no more than 24 hours per day.
The case illustrated in figure 3.6 is one where some imported programs produce marginal profits that are larger than those produced by any of the available domestic substitute programs. The broadcaster would begin to fill the program schedule with the imported program generating the largest marginal profit. Imported programs would then continue to be chosen sequentially until marginal profits are equal to $\Pi_d^*$. For any value of $\Pi_f$ less than $\Pi_d^*$, the broadcaster is faced with both an imported and a domestic program having the same marginal profit, and will be indifferent between them. The broadcaster proceeds to fill all the program slots by choosing imported and domestic programs alternatively until the quantity of imported programs reaches $Q_E$. Beyond $Q_E$, extra units of imported programs can only be selected by displacing more profitable units of domestic programs (i.e. $\Pi_d > \Pi_f$). Below $Q_E$, the reverse would be the case. The total profit earned by the broadcaster is the sum of the marginal profit of each of the programs included in the schedule. In figure 3.6 this is given by the sum of the area under $M\Pi_f$ from 0 to $Q_E$ and the area under $M\Pi_d$ from $Q_E$ to $Q_T$.

Domestic content regulation aims to correct the failure of commercial broadcasters to take account of the cultural benefits that society derives from domestic programs. Ideally the aim of the regulation is to produce an outcome that maximises all the benefits produced by the consumption of domestic programs. This would occur at the point where the marginal social benefit of an additional unit of imported programs is just equal to the marginal social benefit of an additional unit of domestic programs (where social benefits are defined as the sum of indirect cultural benefits and of private benefits to consumers and producers).

The effect of a regulatory mechanism such as a quota on the use of imported programs is illustrated in figure 3.7. The figure shows the marginal profit curves as well as the marginal social benefit curves of imported and domestic programs. For imported programs, the indirect cultural benefits to society are zero by definition. In the figure social welfare is maximised at the point where the two 'marginal total benefits' curves intersect (i.e. point x). This corresponds to a quantity of imported programs $Q_R < Q_E$. The solution differs from the market solution given by the intersection of the two marginal profit curves $M\Pi_f$ and $M\Pi_d$ (point a in the figure). The total benefits resulting from the market solution are represented by the sum of the area from 0 to $Q_E$ under the $MSB_f$ curve and the area from $Q_E$ to $Q_T$ under the $T_d$ curve (the lightly shaded area). The total benefits from the regulated solution (with an ideal costless quota) is given by the sum of the area from 0 to $Q_E$ under the $MSB_f$ curve and the area from $Q_E$ to $Q_T$ under the $MSB_d$ curve which is larger than the unregulated solution by the dark shaded area xyz.

---

15 The reverse case may also be possible.
TARIFFS AND SUBSIDIES

Other possible forms of intervention include direct provision of domestic programs through public broadcasters, production subsidies to domestic programs and a tariff (tax) on imported programs. The effects of tariffs and subsidies are illustrated in figure 3.8 (below). The figure shows the marginal profit curves and the related marginal total benefit curves of imported and domestic programs for a commercial broadcaster’s program schedule. The introduction of a tariff \( t \) on imported programming would reduce the marginal profit of each unit of imported programs by an amount equal to the tariff. The marginal profit curve for imported programs would thus shift down from \( \Pi_f \) to \( \Pi_f t \). The marginal total benefit curve does not change as the tariff is effectively a transfer from broadcasters to the rest of society (ignores administrative costs and other losses). The shift in the marginal profit curve of imported programs makes some imported programs less attractive than domestic substitutes. The combination of domestic and imported programs included in the broadcaster’s schedule is determined by the intersection of \( MP_f \) and \( MP_r \). An ideal tariff (one that maximises welfare) would ensure intersection of the two curves at point \( c \) corresponding to \( Q_R \) imported programs and to the intersection of the marginal total benefit curves. As a result the quantity of domestic programs increases from \( (Q_T - Q_E) \) to \( (Q_T - Q_R) \).

A subsidy \( s \) on domestic production would reduce the cost of domestic programs faced by broadcasters and thus increase the marginal profit of each unit of such programming. The marginal profit curve for domestic programs would shift up from \( \Pi_d \) to \( \Pi_d s \). The marginal total benefit curve does not change as the subsidy is effectively a transfer to
domestic producers from the rest of society (ignoring deadweight losses from tax to fund the subsidy, administrative costs and other losses)\textsuperscript{16}. Again, some domestic programming becomes more attractive than imported substitutes to the broadcaster with a consequential change in the relative quantities used in the programming schedule. An ideal subsidy would produce exactly the same relative change to the composition of the programming schedule as an ideal tariff.

**Figure 3.8: Effect of Tariffs and Subsidies**

\[
\text{Number of Program Slots Filled by Imported Programs}
\]

\[
\begin{align*}
\text{MSB}_f & = \text{Marginal Welfare of Imported Programs} \\
\text{MSB}_d & = \text{Marginal Welfare of Domestic Programs} \\
\text{M}\Pi_f & = \text{Marginal Profit of Imported Programs} \\
\text{M}\Pi_d & = \text{Marginal Profit of Domestic Programs} \\
\text{M}\Pi_{fs} & = \text{Marginal Profit of Imported Programs after tariff} \\
\text{M}\Pi_{ds} & = \text{Marginal Profit of Domestic Programs after subsidy}
\end{align*}
\]

Direct provision of domestic programming through a public broadcaster would have a substantially different impact. It could be used to cater specifically for socially valuable programming not supplied by commercial broadcasters. Direct provision would also indirectly influence the programming of commercial broadcasters by increasing the opportunity cost of their viewers. Thus faced with increased competition, commercial broadcasters, would have to increase the relative attractiveness of their programming to retain their audiences.

\textsuperscript{16} The effect of the subsidy will also depend on conditions in the program production industry that may affect its efficiency.
CONCLUSION

This chapter develops a model of the supply and demand of television programs to help illustrate the various types of market bias that impact on social welfare. The approach builds upon the work of other researchers, particularly by exploring the microfoundations of program choice and by introducing the concept of breadth of appeal. The focus is on the diversity of programs under monopoly and competitive structures when the number of available channels is restricted. In this regard, the general nature of the model allows a more realistic depiction of program choice than some previous models whose conclusions are dependent on numerical examples and more restrictive assumptions.

Consistent with the findings of previous models, the model developed above predicts an overproduction of program diversity by monopolistically competitive broadcasters. It also predicts that, in a restricted channel environment, monopoly will have the greater tendency to produce more program variety than monopolistically competitive broadcasters. However, under some circumstances, such as when the potential audiences of two different programs have a substantial proportion of their members in common, competition may produce the more diverse outcome.

The model also facilitates extensions of the analysis of program choice to consideration of external benefits that are claimed for certain types of programs. As might be expected, the model predicts a less than socially optimum level of supply of such programs. Another extension of the model facilitates the illustration of how broadcasters choose programs from different sources (e.g. domestic or imported) and the impact that regulatory mechanisms have on such choices.
CHAPTER 4 DOMESTIC CONTENT REGULATION OF TELEVISION PROGRAMS

INTRODUCTION

Because of the pervasive and extensive use of television as a source of information and entertainment, television programs are often thought to have an important or pivotal influence on the development and enhancement of national culture and identity. For example, the Explanatory Memorandum to the Broadcasting Services Act 1992 (BSA) states that the relevant clause of the legislation “recognises that broadcasting can play an important role in shaping Australia’s collective views, values and culture”. That broadcasting and other cultural activities can play such a role has received some support in other quarters (IAC 1978). The importance of such a role, however, does not necessarily justify regulatory intervention in only one of a number of similarly influential media. For intervention to be justified, it is necessary to demonstrate not only that an unregulated market does not optimise social welfare, but also that intervention will produce a net increase in social welfare.

Regulation of the amount of Australian programs broadcast by commercial television services was a vexed issue even before the introduction of television in Australia in 1956, and has continued to be an issue of policy debate up to the present day. Both cultural and employment creation arguments have been used to justify the regulation over the years. However, as the debate became more sophisticated, the employment creation arguments have been given less prominence at least in official circles.

Although domestic content regulation of commercial television programs has been in place for more than 30 years, there has been little attempt to establish a sound rationale that may justify government intervention in this area on the basis of either efficiency or equity. The aim of this chapter is to highlight the perceived objectives of the regulation and assess the validity of the main arguments that have been put forward to justify the regulation. The chapter contains details of the current domestic regulation for television programming in Australia, as well as a brief summary of the regulatory mechanisms used in earlier years. A more detailed historical summary of the development of the regulation is provided in Appendix I. For comparative purposes, a brief discussion of the domestic content regulation applying in selected overseas countries is provided in Appendix II.

BRIEF HISTORY OF THE REGULATION

When television was introduced in Australia in 1956, commercial operators were subject only to a general obligation to employ “Australians, as far as is possible, in the production and presentation of programs” (Broadcasting and Television Act 1942, S 114 (1)). Although it had been sympathetic with arguments favouring program regulation, the Royal Commission on Television (1954) believed that it was not
practicable to set quotas “before any actual experience has been gained as to the amount of talent available or its capacity to provide a good standard of programme” (p. 157). The general employment obligation, however, proved ineffective and was eventually replaced by specific programming obligations.

Starting in 1961, commercial stations that had been established for at least three years were required to use Australian material for not less than 40 per cent of their total transmission (50 per cent from 1965) and at least one hour per week (two hours after 1962) of Australian material during prime viewing time (7.30 - 9.30 pm). The first program-specific requirements were introduced in 1967.

Those early requirements, and their administration by the ABCB, were strongly criticised by the report of the Senate Select Committee on the Encouragement of Australian Productions for Television (Vincent Committee 1963). The Committee was particularly critical of the ‘insufficient’ level of domestic programming and of the resultant “undesirable sociological and cultural consequences”. The Committee was also concerned about the lack of employment opportunities for creative people.

Concerted lobbying by various interest groups arguing for the use of program regulation as a mechanism to generate increased employment opportunities began to emerge in the late 1960s. This culminated in the establishment of the ‘TV - Make it Australian’ committee by a group of actors and performers. The committee attracted the support of unions and of the Labor Party and its campaign was a major influence on the nature and structure of subsequent regulatory provisions (ABT 1991a, vol. 3, p.188). In 1971 prime time requirements were increased to 45 per cent Australian content (50 per cent in 1972) overall and 6 hours of drama per 28 days. Additionally, stations had to transmit 4 hours of children’s programs per 28 days at times suitable for school age children (ABCB 1971).

In 1973, following the election of a Labor Government (December 1972), the quota arrangements were replaced by a ‘points system’ with the aim of generating further increases in Australian programming and encouraging greater diversity and quality (ABCB 1973). Under those arrangements, Australian programs were accorded points, ranging from 0.5 to 10, based on their contribution to desirable diversity and their “quality, cost, employment opportunities and time of presentation.” (ibid, p 110). Stations had to earn a points total at least equal to the number of hours of transmission by the station between 6.00 am and midnight each 28 days. They also had to broadcast 6 hours of first release Australian drama each 28 days during prime time (subsequently increased to 104 hours plus 4 ‘big-budget specials’ per year).

The current system of regulation is a variant of that introduced in 1990. It sets out minimum domestic content requirements in terms of both transmission time quotas and specific programming quotas. Details of the current requirements are provided below. The original (1990) provisions specified an initial transmission quota of 35 per cent of a

---

1 Prime time requirements were increased to 12 hours per 28 days in 1967 and 18 hours per 28 days in 1969.
commercial station’s actual transmission time between 6.00 am and midnight, averaged over the year. The quota was increased at the rate of five percentage points per year until it reached a level of 50 per cent in 1993. In addition, enough first release Australian drama and diversity programs had to be broadcast to secure minimum annual and triennial drama/diversity scores. The points score for eligible programs was calculated by multiplying the program’s duration in hours by an ‘Australian’ factor and by a ‘quality’ factor. The latter factor was related to program costs. Additional quantitative requirements for children’s programming, including first release children’s drama, were also in force.

CURRENT REGULATORY PROVISIONS

Government intervention in a market may take a variety of forms including regulation of market behaviour, direct participation in the market, and establishment of incentives to promote desired outcomes. All three of these forms of market intervention are practised in Australia with respect to domestic content of television programs. The most important and far reaching of the three is the system of quotas that apply to the programming of commercial television stations.

The current provisions for Australian content of commercial television programming came into force on 1 January 1996 and are in the form of standards promulgated by the Australian Broadcasting Authority (ABA 1995a). The Australian Content Standard sets a transmission quota requiring that at least 50 per cent of all programming broadcast between 6.00 am and midnight must be Australian. From the beginning of 1998 the proportion of Australian programs required will increase to 55 per cent. In addition to the transmission quota, the standard sets the following specific requirements:

- Stations must broadcast sufficient first release Australian drama programs between 5.00 pm and midnight to score at least 775 points in each succeeding period of three years and at least 225 points in any year. The points are the product of a ‘format factor’ and the duration of the program. The format factor takes three different values depending on the type of program. Serials and series produced at the rate of more than one hour per week are assigned a format factor of 1; for those produced at the rate of one hour or less per week the format factor is 2; and, for feature films, telemovies, mini-series and self-contained drama of less than 90 minutes, the factor is 3.2.

- At least 26 hours of first release children’s drama must be broadcast in the appropriate time band in 1996. The quantity increases to 28 hours in 1997 and 32 hours in 1998 and subsequent years. In addition, stations are required to broadcast at least 8 hours of non-first release children’s drama each year.

2 The requirement was phased in over four years as follows: 35 per cent in 1990; 40 per cent in 1991; 45 per cent in 1992; and 50 per cent in 1993 and subsequent years.
• At least 50 per cent of the 260 hours of children’s programming per year mandated by the Children’s Television Standard 3 must be first release children’s programs.

• All of the 130 hours per year of pre-school children’s programming mandated by Children’s Television Standard 3 must be Australian. A pre-school children’s program must not be broadcast on more than 3 occasions in a period of 5 years.

• At least 10 hours of first release Australian documentary programs of not less than 30 minutes each must be broadcast each year.

Different regulatory arrangements apply to pay television services. Pay television operators are not required to comply with any overall transmission requirements for Australian programs. However, predominantly drama channels are required to use 10 per cent of their programming expenditure to fund first release Australian programs. A review of whether the proportion should increase to 20 per cent is to be undertaken by July 1997.

In addition to regulation of domestic content of programs on commercial television, the two publicly funded national broadcasters, the Australian Broadcasting Corporation (ABC) and Special Broadcasting Service (SBS) are active participants in the production and delivery of television programs. Both the ABC and SBS contribute to the overall diversity of Australia’s television service.

The ABC was first established in 1932 and became a statutory corporation with the enacting of the Australian Broadcasting Corporation Act 1983 (ABC Act). Its charter, inter alia, requires the ABC to provide “programs that contribute to a sense of national identity and inform and entertain, and reflect the cultural diversity of, the Australian community”. Although the charter does not impose specific domestic content obligations, it requires the corporation to take account of the regulations applicable to commercial operators.

The SBS was first established in 1978 and its operations are governed by the Special Broadcasting Service Act 1991 (SBS Act). The principal function of the SBS is to provide multilingual and multicultural services that contribute to meeting the needs of Australia’s multicultural society. The very nature of the services provided by the SBS means that a large proportion of its programming originates overseas. The SBS does not have any specific obligations for Australian content, but is required to “make use of Australia’s diverse creative resources” (SBS Act).

The government also provides assistance to the production of Australian films and television programs. The main vehicle for financial assistance is the Australian Film Finance Corporation. The corporation is government funded and makes commercial investments (often subordinate to other investors) in the production of Australian feature films, mini-series, telemovies, children’s drama and documentaries. On a smaller scale, as part of its industry development function, the Australian Film Commission provides limited assistance to the production of innovative film and television programs. Further assistance to television programs is provided by the recently established Australian
Commercial Television Production Fund (Commonwealth of Australia 1994). The fund provides $20 million per year to assist production of Australian drama, children’s drama and documentaries. Half of the fund is set aside for independent producers. As the fund is intended to supplement the Australian content obligations of commercial broadcasters, programs financed by the fund cannot be counted for domestic content quota purposes. Also, investors in Australian films benefit from the taxation incentives of Division 10BA of the Income Tax Assessment Act 1936 which allow the writeoff of the investment as a deduction from income tax.

OBJECTIVES OF THE REGULATION

The principal legislation relating to broadcasting, the Broadcasting Services Act 1992 includes the following among its objectives:

“to promote the role of broadcasting services in developing and reflecting a sense of national identity, character and culture;” (BSA, section 3(e)).

The Act also authorises the ABA to determine program standards for commercial television (section 122) including the Australian content of programs (section 122(2)(b)). The explanatory memorandum accompanying the Act explains that the intention of clause 122(2)(b) was to ensure the broadcast of programming “which reflects the multicultural nature of Australia’s population, promotes Australians’ cultural identity and facilitates the development of the local production industry.”

The ABA’s Australian Content Standard states that its objective is “to promote the role of commercial television in developing and reflecting a sense of Australian identity, character and cultural diversity by supporting the community’s continued access to television programs produced under Australian creative control”. However, the ABA (1994a) adds that:

“The overall objective of the regulation is not only to ensure that broadcasters continue to meet their varying cultural obligations but also that the regulation of Australian content on television contributes to the continuing development of the Australian audiovisual industry and positions it to play a vital role in what is often described as the ‘information society’.” (p.10).

The regulation’s link with employment creation goes back to the introduction of television in Australia when a general obligation to employ Australians in the production and presentation of programs was imposed on television operators. The obligation remained in the legislation until the Broadcasting Services Act 1992 replaced the previously applying Broadcasting and Television Act 1942. Although no longer a part of the primary legislation, the obligation continues to apply by virtue of section 21(3) of the Broadcasting Services (Transitional Provisions) Act 1992, which gave the obligation the status of a program standard determined by the Australian Broadcasting Authority. The main link between the employment obligation and the domestic content regulation is through the criteria for determining the ‘Australian’ status of programs.
Previous inquiries and official reports shed further light on the objectives of the regulation. The report of the public inquiry preceding the introduction of the 1990 arrangements states that:

“the need to regulate Australian content on commercial television has been recognised since the early 1960s. It has proved necessary because there is an inherent conflict in the commercial system between financial viability and quality and quantity of Australian programs. This conflict is exacerbated when overseas programs are available at much less cost than Australian programs, when technology provides for easy access to overseas programs, and when licensees are protected from competition by the licensing system.” (ABT 1991a, vol. 1, p. 28).

According to the ABT it is in the public interest that “viewers should receive an assured level of identifiably Australian programs which recognise the diversity represented in the Australian community and which are developed under Australian creative control.” (ibid, p. 28). Consequently, to ensure that the desirable outcome is achieved, the ABT was of the view that:

“there (was) a need to regulate:
• To preserve an Australian look;
• To ensure Australian drama for adults and children;
• To encourage quality;
• To encourage diversity of program types.” (ibid, p. 223).

A similar theme emerges from a variety of statements over the previous 30 years. The ABCB’s annual reports from the early 1960s routinely refer to the general acceptance of a “distinctively Australian television service” and provide some information on what such a service was thought to imply. According to the ABCB it did

“not imply excessive nationalism or insularity or the active exclusion of every overseas influence. The real problem in this matter is concerned with finding a balance in programme composition between local and imported material, to enable Australian audiences to view the best programmes from other countries, while providing the fullest possible opportunity for the production of programmes employing Australian talent and expressing Australian outlook.” (ABCB 1963, p. 61).

The regulators were expected to go beyond the task of finding a balance in the relative quantities of Australian and imported programs on television. The early 1960s witnessed increasing demands for regulation to be used as a mechanism to promote improved quality and diversity of Australian programs deemed to have been desirable for both cultural and employment reasons. The Vincent Committee, for example, rebuked commercial television for their failure to act “in the best interests of the public” by not providing “a far wider range” of better quality programs. In particular, the Committee argued for increased amounts of Australian drama on television and noted that the additional employment opportunities thus created would help curb the loss of Australia’s
“best actors and dramatists” which “has been a sad blow to the healthy development of our culture” (Vincent Committee 1963; p 17).

Throughout the 1960s, however, regulatory provisions continued to focus largely on the quantity of Australian programs on television. It wasn’t until the introduction of the ‘Points System’ in 1973 that program diversity and higher quality standards were specifically included in the objectives of the regulation. In addition to increased diversity and higher quality standards, the objectives of the points systems included increased quantity of Australian programming, better balance in the type of Australian programs presented on television, and provision of greater flexibility and incentives to stations to try out new formats, especially drama, variety, documentaries and educational programs (ABCB 1973, Minister for the Media 1974).

The many changes to the regulatory requirements for Australian content on television over the past 30 years suggest that successful regulatory formulas for the fostering of national culture and identity may have been elusive. The intangible nature of the ultimate objective has also led to the pursuit of a multiplicity of subsidiary objectives that are potentially in conflict with each other. For example, while quantity and quality are not necessarily mutually exclusive, requirements attempting to increase both simultaneously may well exert opposing pressures on operators. Similarly, provision of greater flexibility to operators is likely to be at least partly in conflict with prescription of program types (drama quotas), and incentives favouring certain categories of programs. The potentially competing nature of such objectives also generates difficulties for the effective measurement of the impact of the regulation since their relative contribution to the overall objective cannot be readily determined.

**RATIONALE FOR DOMESTIC CONTENT REGULATION**

Regulation of domestic content appears to be based primarily on the belief that there are spill-over effects on national culture and identity. The underlying argument is that imported programs are produced primarily for consumption in their country of origin and reflect the culture and customs of their societies. In addition, the cost of making additional copies of the program for sale outside the producing country is small. Because of the influence of television on opinions and attitudes, the concern is that excess consumption of imported programs will erode efforts to preserve and enhance a national culture and identity. Without regulation, the inherent bias of broadcasters for lower cost programs may mean insufficient supply of higher cost domestic programs deemed necessary to counteract the negative cultural influences of imported programs. The value of regulation in such a context has been disputed both in Australia (Jones 1991) and overseas (Globerman 1983, Acheson and Maule 1990 and 1992).

Several other arguments disputing consumer sovereignty have been advanced to advocate program regulation. As Cave (1989) points out, these arguments are based on one or more of the following:

“(i) consumers lack the information to make well-informed choice of programmes;
(ii) consumers have appropriate information, but have the 'wrong' tastes;
(iii) consumers' tastes are endogenous, an artefact of suppliers' prior programming decisions; and
(iv) viewing ... broadcasts is an activity which spills over into behaviour which affects others; some kind of intervention in programme selection is thus required to correct the externality.” (p. 30)

The first two of these arguments are steeped in the paternalistic view that favours the replacement of consumer preferences by those of better informed or more knowledgeable others. However, the validity of these arguments to solve the perceived problems with regulation is questionable. The more appropriate way to solve the problem would be to remedy the information inadequacies. Of the other two arguments, endogenous tastes formation provide some validity for regulation to prevent manipulation by suppliers, but raises questions about who should decide how tastes are to be moulded. Spill-over effects can be positive or negative. If they are substantial, they may justify regulatory intervention to maximise welfare.

In Australia, a variety of similar arguments have been advanced in support of the regulation. The nature and emphasis of the arguments has changed over the years reflecting in many ways the changing political realities, as well as shifts in community views. A good cross-section of the arguments for regular intervention is found in the submissions to the most extensive public inquiry ever conducted into Australian content on commercial television (ABT 1991a). The arguments include:

(a) Australian programs are an extremely important force in creating a national identity. Australian television is an art form that not only records and preserves our history but depicts the Australian way of life. The promotion of Australia through this art form should therefore be nurtured with some form of protection.

(b) They assist the development of a national culture and identity, provide social comment and criticism and address major social issues.

(c) They help preserve Australian culture for future generations.

(d) Australian program quotas have a role in maintaining an Australian production industry. They provide opportunities for employment of Australian creative talent and prevent loss of talent to other activities/professions or to other countries.

(e) Australian production of television programs provides benefits to other activities (e.g. film and theatre) through the transfer of talents and skills.

(f) Even though local production of television programs has a cost advantage vis a vis production in major program source countries, the local industry cannot survive without quotas because imported programs are available at very low prices (close to marginal cost of reproduction).
They act to reduce balance of payment problems (replace overseas purchases) and add to foreign earnings through sales and through promotion of Australia as a tourist destination.

Only some of these arguments are consistent with potential efficiency improvements that may justify government intervention in the market. Action on the basis of others would be difficult to justify. The latter group includes arguments in support of intervention on the basis of its contribution to employment creation, industry development, foreign earnings or other activity. Such arguments seem to imply that production of television programs is somehow more deserving of support than production of other commodities making similar contributions to the domestic economy. For those arguments to be sustained it would be necessary to demonstrate that the intervention is directed at achieving some otherwise unattainable important public goal. Without such evidence, many other activities could make similar claims for assistance and may even be able to claim a greater contribution to the domestic economy. It would appear unlikely, therefore, that a valid case for special treatment on such grounds could be sustained.

Valid arguments for intervention are those based on some form of failure in the operation of the television program market. A number of such failures are implied by the arguments listed above. A discussion of the more important types of failure that may occur in the television programming market follows.

EXTERNAL BENEFITS

As indicated above, developing and reflecting a sense of national identity, character and culture is the principal objective of the regulation. The arguments for assistance to domestic television programs have obvious parallels with arguments for assistance to the performing arts, a detailed discussion of which is provided in Throsby and Withers (1979). All the activities encompassed in a broad definition of performing arts are seen as means of expressing and communicating ideas and emotions that can assist the development and enhancement of a national culture and identity. More specifically, it is believed that television is a particularly influential medium in the shaping of social ideas. Television programs depicting Australian themes, situations and experiences can be a powerful means of providing social comment and criticism on major issues confronting the community. The resultant benefits accrue to the community as a whole and not just to viewers and those involved in the production of programs. The argument against imported programs is that their consumption, unless counterbalanced by a sufficient diet of local programs, will erode desirable national cultural traits and, through the influence of television, replace them with those of another culture.

If the existence of external benefits is assumed, it can be readily demonstrated that a freely operating commercial television market is likely to supply a less than optimum level of social welfare. Because of the external nature of the benefits, rational broadcasters aiming to maximise profits are unlikely to take account of them in their

---

3 Good discussions are also provided in Throsby (1994) and in Heilbrun and Gray (1993).
programming decisions. Thus, when faced with a choice between a domestic and an imported program, a broadcaster will have an incentive to choose imported programs that make a marginally greater contribution to profits than the available domestic alternative. That incentive will continue to exist even in a situation where, from society’s point of view, the domestic program should be preferred because the external cultural benefits it generates outweigh the extra profits earned by the imported alternative.

The existence of external cultural benefits in the broader context of the performing arts was acknowledged by the Industries Assistance Commission which deemed it to be sufficient justification for some form of government intervention (IAC 1978). An even stronger case can be made for television programs. Unlike participation in the arts, almost all Australians consume television programs and, on average, do so for approximately 22 hours per week (A. C. Nielsen 1994). Also many domestic programs are popular with audiences (ABA Trends & Issues 1993a). Consequently, to the extent that cultural benefits exist in domestic programs, their influence on national identity and culture is more direct and more widespread than that of other cultural activities.

However, the process and the extent to which Australian television programs contribute to, and enhance, the development of a national culture and identity is not clear. In the debate surrounding Australian content, national culture and identity are generally used as broad and loosely defined concepts. Indeed, seldom, if ever, are there any attempts to identify what desirable aspects of national culture and identity are being promoted by Australian programs. Even if the programs are effective in promoting national culture, it is unclear how efficient they are in doing so. In the absence of clearly established links between domestic programs and the development of a national culture and identity, it may be that other, more efficient mechanisms are available to achieve the desired objectives (Globerman 1983). Furthermore, the regulatory definition of ‘Australian’ for quota purposes, necessarily, is based on subjective criteria. As highlighted by Acheson and Maule (1990) in the Canadian context, there are many inconsistencies in the way news, current affairs and sports footages are defined as domestic, irrespective of their source. Also, it is possible that criteria for determining ‘domesticity’ on the basis of the nationality of inputs does not ensure that the content of the program has the desired national characteristics. These aspects, of course, would act to weaken the effectiveness of the regulation, even if the linkages between domestic programming and national identity and culture are established.

But even if the existence of external cultural benefits is not questioned, determination of the optimum quantity of the benefits that should be supplied through domestic television programs remains a major problem to be resolved. Theoretically it would be possible to take a poll of the community’s willingness to pay for different levels of the external benefits and then supply the level at which the marginal cost of supply equals the aggregate marginal willingness to pay. In practice, such an approach may encounter considerable problems in obtaining truthful revelations from respondents (Samuelson 1954). An additional problem in the case of cultural benefits is that such benefits are intangible and, thus, are not easily identifiable or measurable.
Television programs come in great variety. Their inherent cultural benefits can vary substantially between program genres and between programs within a genre. Similarly, the audience appeal of programs varies widely. Determination of the quantity and type of domestic programs that best satisfy society’s demand for the external benefits can be a very complex task. It would be possible, however, to derive an indirect measure by using a survey mechanism to estimate willingness to pay for both the private and external benefits that the community derives from domestic programs. The value of the benefits thus estimated can be compared with the cost of supplying the regulated levels of domestic programming to assess whether it is greater than, less than or equal to the supply cost.

**MERIT GOODS**

The regulation includes special provisions for the broadcast of minimum quantities of domestic drama and children’s programs. Essentially, the arguments advanced to support these provisions reduce to claims that drama and children’s programs are especially important to cultural development and, thus, are inherently meritorious. However, the relatively high cost of such programs renders them unattractive to broadcasters even though they often attract sizeable audiences. Consequently, it is argued that because of their high intrinsic merit, the value of those programs is more than outweighed by the cost of supplying them.

Of course, defining a merit good requires some strong value judgements, and raises questions about who should exercise judgement on the matter. Some special factors, similar to those often associated with education, may apply in relation to children’s programs. However, in respect to drama, even if the existence of a high intrinsic merit was to be accepted, there would still be a need to demonstrate that the same level of external benefits could not be delivered more efficiently by other programs. For example, it may be possible that larger quantities of other domestic programs could produce the same level of external cultural benefits at a lower cost.

Throsby and Withers (1979) infer from public pronouncements of politicians in various western countries that “there is little doubt that merit-good considerations have been the most significant single explanation of government involvement in the arts ...” (p. 192). The sentiments of the politicians quoted by them are often echoed in arguments for support of domestic production of television drama (ABT 1991a). In most cases, however, arguments for imposed choice on the basis of intrinsic merit revolve around the value judgement that something is good *per se* and raise the issue of paternalism.

That notwithstanding, Throsby (1994, pp. 23-24) notes that standard welfare analysis may be restrictive with regard to socially meritorious goods, because:

---

Levin (1980) for example, considers the availability of a broad range of public service and minority programs to be meritorious.
• individuals may be ignorant, or insufficiently informed of, their own welfare, in which case provision of information or education may be justified;

• it is possible that inconsistencies between observed behaviour and underlying values arising from misperceptions, weakness of will, or fluctuations of preferences may support inclusion of some form of government intervention in a broader interpretation of consumer sovereignty; and

• a social welfare function that includes individual utilities only may be too restrictive in the context of social goods with benefits that cannot be attributed to some individual.

FORMATION OF TASTES

Another variant of the merit good argument is that people may be unaware of the value of certain programs, but would demand more after exposure to them. There is a need to ensure that programs are supplied for ‘educative’ or taste-developing purposes that will eventually generate sufficient market demand. People may also lack information about the origins of programs or the availability of alternative choices. Furthermore, because they are not in a position to influence directly the program decisions of broadcasters, program choices reveal only the ranking of preferences for programs on offer and not for programs in general.

Essentially, the argument here is that tastes for television programs and other similar commodities are endogenous, are dependent on experience and on past consumption. In a sense, they are seen as having some of the characteristics of addiction. Some form of intervention in such a situation is supported by theory. The new theory of consumer behaviour (Michael and Becker 1973) suggests that tastes are stable and that behavioural change over time is due to the experiential accumulation of consumption capital by the consumer (human capital). The effect of such accumulations is to reduce the shadow price of, and hence increase the demand for, particular commodities. Based on that theory, Stigler and Becker (1977) and Becker and Murphy (1988) have developed a theory of rational addiction that can help explain why non-exposure to certain types of ‘addictive’ goods, such as domestic television, will act to restrict their demand.

COMPETITION FAILURE

The production of television programs and of other information based products has characteristics of natural monopoly. Virtually all the production costs are incurred in the making of the first copy of a program. The marginal cost of subsequent copies is very low and amounts to little more than the cost of video tape or film stock required for the copy. Thus average cost per copy declines continuously as the number of copies produced increases. Because of the low marginal cost, copies of a program produced in one country can be supplied profitably at very low prices to broadcasters in other countries. It also possible that some aspects of the international trade in television
programs may not be perfectly competitive (Hoskins and Mirus 1988; Hoskins, Mirus and Rozeboom 1989).

Acheson, Maule and Filleul (1989) argue that the natural geographic market for films and television programs is transnational and that it is appropriate for prices to be low so long as they cover marginal cost of production and distribution. This would imply that efficient production of programs in any country should adopt an international outlook and that quotas and other preferential treatment of domestic programs may in fact promote non-competitive outputs. An international outlook, however, may be in conflict with the desire to promote domestic programs for their inherent national cultural values.

**EXISTENCE VALUE AND OPTION DEMAND**

Individuals' demand for Australian programs may not give appropriate consideration to the cultural development dimension. Although individuals may deplore the loss of cultural values to the community or may consider the availability of Australian programs as desirable, their consumption decisions are likely to be driven by the immediate private entertainment/information benefit obtained from viewing a program.

As indicated above, domestic television programs are likely to have a significant influence on the development and enhancement of national culture and identity. The existence of that influence may be valued by people even though it may not influence their consumption decisions. The argument is somewhat analogous to that for the protection of environmental resources. If the aim is to protect a national culture, the loss of a major contributor to it may be considered deplorable. Although it would be possible to revive a television production industry that had been allowed to languish, it may not be possible to make up the loss of its influence on national culture.

Option demand refers to the value that some people place on the opportunity to consume a commodity if they so wish. It may relate to a current or future opportunity. Essentially the argument is that some people may be willing to pay for the option of having access to Australian programs even though they may choose to consume other programs. It is similar to membership subscription to an art gallery or a club whose facilities are used infrequently. The demand itself may be weak and thus, it may be uneconomical to collect revenue from it. In a variant of this argument, option demand may be expressed as the aspiration to preserve desirable cultural traits for future generations.

Existence and option demand cannot be expressed in the current free-to-air television market in a way that can influence programming decisions of broadcasters. Consequently, intervention may be necessary to ensure that the options are available. To what extent existence and option demand add to the justification for domestic regulation in the Australian context is not clear. The existence of a national, publicly funded

---

5 The revival of the Australian film industry after languishing for many years is a pertinent example of such a possibility.
broadcaster (the Australian Broadcasting Corporation (ABC)) with a clear obligation to produce and broadcast Australian programs may be sufficient to satisfy any such demand.

INNOVATION AND RISK

In part, the domestic content regulation seeks to encourage programs that reflect "a sense of Australian identity, character and cultural diversity" (*Australian Content Standard*). Innovation is likely to have a substantial continuing role in the effective pursuit of such an aim. Innovation and new product development can be costly and involve a high risk of failure. Unless the rewards adequately match the efforts and risks involved, innovation is inhibited. Unlike technical inventions that can be protected by patents, new concepts for programs or new creative production techniques, once developed, are available to any one to adopt. Therefore, without some form of market intervention, it is likely that the level of program innovation will fall short of the social optimum.

Here too, to what extent promotion of innovation adds to the justification for domestic regulation in the Australian context is not clear. Some of the earlier regulatory mechanisms for domestic content (e.g. those in place between 1990 and 1995) have attempted, without much success, to encourage innovation by allocating higher points scores for new concepts. The role of the national, publicly funded broadcasters (the ABC and SBS) has been more successful in this regard. Both of these broadcasters, particularly the ABC, have played a major role in the development of new programs whose concepts and styles were subsequently adapted by commercial broadcasters. The justification for any further intervention in the market needs to be demonstrated on the basis that the proposed mechanism is the most efficient for the purpose.

EMPLOYMENT OPPORTUNITIES FOR CREATIVE PEOPLE

The creation of employment opportunities for creative people has been advanced on many occasions as a justification for quantitative regulation of domestic content and particularly drama. The Vincent Committee (1963) was one of the earliest and strongest proponents of using regulation for this purpose. The Committee was concerned that the introduction of television had failed to generate the anticipated employment opportunities and that large numbers of Australian actors were unable to find employment as a result of the demise of radio drama. Arguments in support of using regulation for job creation continue to be put strongly by labour interests such as Actors Equity, the Australian Theatrical and Amusement Employees Association and the Australian Writers Guild. Those interests claim that only a small proportion of a large pool of creative people can find full-time employment and self expression in the television production industry (ABT 1991a).

---

6 The script, musical score and other specific elements of a program are protected by copyright.
It may be that many of the people who aspire to be actors or to undertake some other artistic pursuit are faced with limited opportunities to practise their chosen profession. Such a situation alone, however, would not justify the according of special treatment. People pursuing other professions may also find limited employment opportunities. For assistance to be justified, it would need to be demonstrated that professions associated with the production of television programs are somehow more deserving than other professions. It would also need to be demonstrated that the provision of assistance to creative individuals would be more efficient than providing assistance to others. It nonetheless remains that any assistance accorded to the production of domestic television programs that is justified by any of the reasons discussed above will also indirectly increase employment opportunities.

CONCLUSION

Several forms of potential market failure can be postulated with respect to domestic television programming. The existence of these market failures, however, does not establish a sufficient condition for regulation or other forms of government intervention in the market. Before intervention to correct market failure can be justified, it is necessary to establish the magnitude of the market failure, quantify the benefits likely to ensue from the intervention, and demonstrate that the benefits outweigh the associated costs, including the cost of implementing the intervention.
CHAPTER 5  EFFECTIVENESS OF AUSTRALIAN CONTENT REGULATION

INTRODUCTION

This chapter assesses the effectiveness of the various mechanisms that have been used to regulate domestic programming on Australian commercial television. The emphasis is on the assessment of the degree to which the mechanisms achieved their explicit and implied objectives. It does not deal with the issue of whether the regulation is efficient in the sense of generating a net welfare gain. That will be the subject of later chapters. The analysis, therefore, deals mainly with compliance with the regulatory requirements by commercial television stations. Since the regulation aims to alter behaviour that would otherwise result from the pursuit of market incentives, it implies the presence of a cost that rational broadcasters would attempt to minimise. Consequently, results that consistently approximate mandated outcomes would suggest that the behaviour is being driven by the regulatory mechanisms. Conversely, regular and substantial overperformance would suggest that factors other than the regulatory requirements are having a major influence on the behaviour of operators.

Effectiveness of a regulatory instrument may be difficult to assess unless its impact can be isolated from the effects of other factors. It is particularly difficult in the case of Australian content of television programming where the primary objectives of the regulation are not readily conducive to measurement. The intangible nature of those objectives means that the regulator has had to rely on the setting of performance targets, which at best, are only proxies for the aims of the regulation. The inability to measure the ultimate objective also means that the appropriateness of the chosen instruments and their contributions to the ultimate objectives are virtually impossible to establish empirically and have been left largely as matters of judgment by the regulator. Under such circumstances, and in the absence of evidence to the contrary, it has been necessary to assume that the chosen instruments and the related targets are appropriate for the intended purpose. In any event, from the broadcasters' point of view, they represent the concrete outputs they are required to deliver to satisfy their obligations.

The analysis of compliance with the regulatory instruments is largely empirical in nature and is based on comparisons of performance with the requirements set by the regulation. Wherever possible, the empirical results are supplemented by qualitative evidence of the level of consistency between the outcomes and the expectations of policy makers. Incongruity of expectations and outcomes may indicate that inappropriate or inefficient instruments have been applied.

Although this chapter provides a broad review of the effectiveness of the regulation since its inception, its primary interest is in an assessment of the provisions that have applied

* An earlier version of the analysis in this chapter was published as Papandrea (1995).
between 1990 and 1995 using the most recently available data. That analysis is also used as the basis of a prospective assessment of the amendments introduced on 1 January 1996, for which performance data are unlikely to be available until late 1997.

**THE PRE-1990s PROVISIONS**

**Early Requirements**

The principal aim of the early requirements was to induce commercial television stations to transmit a minimum quantity of locally produced programs. From 1961 all commercial television stations were to broadcast at least one hour of Australian programs per week at prime time (7.30pm to 9.30pm). Those that had been in operation for more than three years were to broadcast Australian programs for not less than 40 per cent of their total transmission time. The regulation was introduced at a time of declining overall Australian content and almost exclusive use of imported programs during the evening prime time. There was also a strong desire by the regulator to avoid the imposition of onerous burdens on the broadcasters. As a result, the requirements were set at levels only slightly above the then performance of established stations.

The level of Australian content on Sydney and Melbourne commercial stations in the period 1960-1966 is shown in table 5.1. They were the only stations that had been established for more than three years. The table shows that the two Sydney stations failed to comply with the transmission requirement for most of the period and that none of the stations increased the quantity of Australian programs substantially. The higher Australian proportion of transmission time recorded by the Melbourne stations relative to Sydney is somewhat deceptive, being due to their lower total transmission hours rather than higher usage of Australian programs.

<table>
<thead>
<tr>
<th>Period</th>
<th>Requirement</th>
<th>ATN per cent (hrs/week)</th>
<th>TCN per cent (hrs/week)</th>
<th>GTV per cent (hrs/week)</th>
<th>HSV per cent (hrs/week)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1959-60</td>
<td>none</td>
<td>38.6 (35.75)</td>
<td>32.0 (24.00)</td>
<td>36.7 (26.00)</td>
<td>37.7 (24.00)</td>
</tr>
<tr>
<td>1960-61</td>
<td>40</td>
<td>37.8 (33.00)</td>
<td>36.2 (33.25)</td>
<td>42.4 (33.00)</td>
<td>48.3 (30.75)</td>
</tr>
<tr>
<td>1961-62</td>
<td>40</td>
<td>34.1 (28.75)</td>
<td>39.7 (35.50)</td>
<td>41.0 (31.25)</td>
<td>47.7 (32.25)</td>
</tr>
<tr>
<td>1962-63</td>
<td>40</td>
<td>38.0 (34.25)</td>
<td>39.0 (35.25)</td>
<td>43.0 (33.75)</td>
<td>43.0 (28.50)</td>
</tr>
<tr>
<td>1/7/63-19/1/64</td>
<td>40</td>
<td>36.3 (34.25)</td>
<td>43.5 (39.75)</td>
<td>46.6 (40.25)</td>
<td>39.5 (30.00)</td>
</tr>
<tr>
<td>1/7/64-17/1/65</td>
<td>45</td>
<td>39.4 (28.25)</td>
<td>43.7 (32.00)</td>
<td>40.8 (37.00)</td>
<td>42.6 (33.75)</td>
</tr>
<tr>
<td>18/1/65-30/6/65</td>
<td>50</td>
<td>44.4 (35.50)</td>
<td>49.0 (37.50)</td>
<td>43.5 (38.75)</td>
<td>47.9 (38.75)</td>
</tr>
<tr>
<td>1965-66</td>
<td>50</td>
<td>37.9 (33.25)</td>
<td>41.9 (36.00)</td>
<td>41.3 (35.50)</td>
<td>45.9 (35.25)</td>
</tr>
</tbody>
</table>

Source: ABCB Annual Reports

---

1 No other commercial station completed three years of operation until the first half of 1962-63.
In its annual reports in the three years to 1963, the ABCB reported that all stations were complying with the prime time requirement and had attempted to satisfy the transmission quota. The ABCB considered the prime time requirement to be the more important element of the regulation because it ensured exposure of Australian programs to large audiences and so made them “more effective in balancing the overall impact of television” (ABCB 1963, p. 62). There had been some concern, however, about “the emphasis in Australian material ... on programmes such as light variety, quiz and informal afternoon sessions” with the ABCB indicating that “it would like to see more general interest by stations in the production of programmes with greater intrinsic merit” (ABCB 1962).

The ABCB appears to have adopted a sympathetic, almost paternalistic attitude towards the stations. Non-compliance with the regulatory requirements did not attract any substantial penalties. The only sanction on stations was an annotation recording the non-compliance in the ABCB’s annual reports. In response to a question by the Vincent Committee, the Chairman of the ABCB stated:

“The Board has not threatened any commercial television licensee with disciplinary action. When breaches of the Programme Standards come under notice of the Board the matter is taken up with the station management, either verbally or in writing according to circumstances. There is continued consultation between the Board’s officers and station managements and a high degree of co-operation is received from stations.” (Vincent Committee 1963, p. 6).

The Vincent Committee strongly criticised these early requirements and their administration by the ABCB. The Committee was particularly critical of the “inadequate” level of domestic programming and of the resultant “undesirable sociological and cultural consequences” and was concerned about the lack of employment opportunities for creative people (ibid). The Committee’s report, although not acted upon by the government, was nonetheless influential in the development of subsequent regulatory measures. The ABCB acted by increasing the transmission quota to 45 per cent and the prime time requirement to two hours per week. However, its accommodating approach to enforcement continued unchanged.

Facing only minor penalties, the stations had little incentive to comply with the regulation. Experience had also shown them that if the gap between their performance and the requirement was not large they had little difficulty in convincing a receptive ABCB that non-compliance was due to extenuating circumstances such as reduced advertiser support or lack of suitable programs. By 1966, the ABCB (1966) reported that only two out of 13 metropolitan commercial stations complied with the transmission requirement, and only six out of 15 complied with the average two hour per week prime time requirement over the whole year. As a result, the ABCB was reluctantly forced to conclude “that the existing requirements relating to Australian content were no longer

---

2 The numbers quoted include two stations that had not been established long enough to be subject to the transmission requirement but were subject to the peak viewing requirement.
entirely satisfactory in view of changed conditions in the industry since 1960 and decided on new requirements.” (p. 54).

The 1967-72 period

The regulatory changes implemented in 1967 were the first to incorporate program specific requirements. They increased the prime time requirements to 12 hours for each 28 days and specified that two hours were to be drama. In addition, production of Australian drama and children’s programs was encouraged further by the allocation of double credits (1.5 times for local production of non-indigenous drama) for transmission quota purposes. The ABCB noted that although it “had not previously seen the need” to establish quotas for particular categories of programs, the drama quota was introduced because “its recent inquiries ... led to the conclusion that the television industry now has the capacity, in terms of talent and resources, to produce drama on a regular basis.” (ABCB 1966, p. 55).

The changes in the regulation were followed by increased usage of both drama and children’s programs in 1967-68. Generally, the higher usage levels were sustained in subsequent years. Individually, most metropolitan stations complied with all the aspects of the Australian content requirements in 1967-68. Four failed to meet the drama obligations because of financial difficulties that were attributed to their “more recent” establishment, and were granted a waiver from the requirement (ABCB 1968, p. 84).

Increased drama programming in the late 1960s was attributed to improved audience appeal and compliance with the regulatory requirements. The ABCB observed that the willingness of stations to:

“(televise Australian programs) to a much greater extent than is required ... reflects the general acceptance by the audience of Australian productions, a factor which is confirmed by ratings reports which show Australian drama series among the top rating programmes; in Sydney and in Melbourne the list of the twenty highest rating programmes includes twelve of Australian origin.” (ABCB 1969, p. 101).

Increased production of drama, however, was relatively short-lived. In 1970 the ABCB referred to the “volatility” of the situation and noted that the decline in drama productions was due to the failure of some series to secure adequate audiences, even though others were very popular. The ABCB also considered that the production industry was far from “the position of stability necessary to ensure a steady improvement in both quality and quantity of production.” (ABCB 1970, p. 104).

At least with respect to drama, therefore, it is not clear to what extent the regulatory changes influenced the level of programming broadcast by the stations. The performance

---

3 Increased to 18 hours in 1969.
4 Usage includes both new and repeat programs and thus increases in production are likely to have been smaller.
of the three Sydney commercial stations was typical. In 1967-68, ATN transmitted an average of approximately 7.5 hours per month of Australian drama in prime time, TCN approximately three hours and TEN just under one hour\(^5\), compared with the requirement of two hours per month (ABCB 1968, p. 87). This would suggest that in 1967-68, ATN at least may have been responding to influences other than the regulation. By 1970, each of the three stations was broadcasting a monthly average of just over four hours of drama (ABCB 1970, p. 105), a level twice that required by the regulation. Since even the lowest cost of drama exceeded the cost of other programs there would have been little incentive for the stations to broadcast in excess of the requirement had other factors not been at play.

Although the stations were generally complying with or exceeding the requirements, strong dissatisfaction began to be expressed by some sections of the public, unions and acting and performing interest groups. Principally, these groups sought regulation for increased levels of Australian programming, particularly drama. The strongest pressure for change was being exerted by acting interests who had organised themselves into a ‘TV - Make it Australian’ committee, arguing that television stations were broadcasting less local content than they had promised in their licence applications and had cut back production of variety and drama, even though those programs were very popular with viewers (Harrison 1980, p. 9). Mainly in response to these pressures, the ABCB once again conducted a review of the regulatory requirements.

The review resulted only in minor changes to the Australian content provisions. The new requirements imposed little, if any, additional pressure on stations most of which were already operating at levels that were close to or exceeded the specified levels. Under the circumstances it is not surprising that only minor breaches by some country stations were reported by the ABCB in 1972. The changes failed to satisfy the various interest groups and considerable pressure continued to be exerted. Finally, following a change of Commonwealth government in December 1972, a new system for Australian content of television was introduced in 1973.

**The Points System (1973-1989)**

The points system introduced in 1973 was “designed to achieve more, and better quality Australian programming” and “to encourage production in fields which have been relatively neglected, with the object of offering viewers a wider choice of entertainment.” (ABCB 1973, p. 113). The main difference from the earlier arrangement was the replacement of the transmission time quota with a points quota. The transmission of Australian programs was awarded points ranging from 0.5 to 10 depending on program type. To comply with the quota a station had to earn points equal to at least its total transmission hours each 28 days. The scheme also retained the existing requirements for first release Australian drama and children’s programs. Faced with continuing pressure the ABCB twice amended the requirements within two years of their coming into force.

---

\(^5\) TEN was one of the stations given a waiver for the non-compliance mentioned above.
In both cases, however, the amendments did not increase substantially the obligations of broadcasters.

When the second set of amendments was introduced, the Board almost apologetically informed stations that “it recognised that the amendments were being introduced at a time when the financial position of the industry was insecure, and perhaps subject to rapid change. The Board intends to keep the situation under observation so that it will be ready to vary its requirements appropriately if there is any substantial change in circumstances.” (ABCB 1975, p. 113).

By 1976, the ABCB was attributing substantial increases in drama and variety programs, and a decline in ‘low budget’ material, to the points system. Somewhat curiously, and in contrast to the scheme’s stated objective for more Australian programming, a decline in overall Australian content was also claimed as an indication of the effectiveness of the scheme. According to the ABCB “the amount of time devoted to programs of Australian origin has fallen to its lowest level in ten years, and this may be attributed, in part, to the operation of the Australian content points system which was designed to encourage an increased use of quality local production in drama or live variety, rather than to increase the quantity of low budget Australian material.” (ABCB 1976, p. 119). In effect, the statement was an admission that the scheme had been incapable of achieving its aim of a moderate increase in Australian content levels. In self justification, the ABCB observed that “quality of programs and quantity of programs are to some extent mutually exclusive concepts.” (ABCB 1975, p. 113).

The available evidence clearly indicates that the points system failed to live up to expectations almost from the start. Although it was promoted as a major change to the regulation of Australian content on television, the impact of the change was minor as broadcasters easily met the obligations without any major change to their programming. In a detailed critique of the system in the period to 1978, Harrison (1980) concluded that it failed to achieve its major objectives of raising program quality and increasing the quantity and diversity of local programs because:

“the points system was doomed to fail from its very inception, for a number of reasons. There can be no doubt that the levels set made it too easy for the stations to meet their points targets. There can be no incentive to show higher quality and higher points scoring programs if the targets can be met by showing programs selected without any regard to points. A related reason for the failure of the system is absorption of the values of the regulated group by the regulatory agency. On the available evidence one can only conclude that the Board, and later the Tribunal, steered the system towards concessions to the stations rather than towards a strict enforcement of the system” (ibid p. 42).

6 With the benefit of hindsight the statement about financial insecurity of the industry is somewhat curious. There is no evidence that the industry was experiencing unusual financial pressure at the time (see ABCB 1976, p. 11).
The available data over the full period of the application of the points system (to the end of 1989) are consistent with Harrison’s conclusions.

The air time devoted to Australian programs by metropolitan stations decreased substantially before beginning to rise steadily in the years after 1976. As the lower quantities broadcast pre-1976 were more than sufficient for compliance, the subsequent increases are unlikely to have been brought about by the regulation. In the period 1973 to 1989 the annual average hours devoted to Australian programs by metropolitan stations increased by 1,078 hours. All of the change was due to sports, and news and current affairs, programs which increased by 1,100 hours over the period (619 hours was due to news and current affairs). As a result, both program categories became much more prominent features of Australian programming on metropolitan commercial television. Since neither of these program categories was being specifically encouraged by the points system, their growth is unlikely to have been linked to the regulation.

The impact of the first release drama requirements on the performance of individual stations may be gauged from the amount of drama transmitted by the Sydney commercial stations which, because of networking and other programming arrangements between stations, is broadly representative of commercial stations. The performance is illustrated in figure 5.1.

Figure 5.1: Sydney Commercial Stations’ First Release Drama in Prime Time

<table>
<thead>
<tr>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
</tr>
<tr>
<td>250</td>
</tr>
<tr>
<td>200</td>
</tr>
<tr>
<td>150</td>
</tr>
<tr>
<td>100</td>
</tr>
<tr>
<td>50</td>
</tr>
</tbody>
</table>


Notes: (a) annual performance based on 9 months data to March 1983
(b) does not include non-peak drama credited to TCN as peak performance

Source: ABCB and ABT Annual Reports and ABT (1990)
While for most of the period covered by figure 5.1 each of the stations exceeded the minimum stipulated amount of drama, it is likely that the regulation may have influenced the outcome in some years. This is evident mainly from the performance of ATN and particularly TCN. For several years, TCN’s performance was only just adequate to comply with the regulation. Indeed in 1984 and 1985 it fell short of the minimum requirement. The performance indicates that the regulation was exerting some pressure on that station to comply with the minimum first release drama requirement. Generally, however, the regular over-compliance of the stations suggests that other factors were influencing the outcome. For example, Moran (1993) observes that Australian serials had become the “backbone of the program schedule” and were used to ensure “a solid audience for the other program offerings of particular networks” (p. 22). To the extent that higher advertising revenue earned from larger audiences outweighed the cost disadvantage of first release Australian drama, of course, greater usage of such programs would have been encouraged even in the absence of regulation.

Children’s programming is an area where the regulation may have had a substantial impact. While the average amount of children’s programs does not appear to have been affected in a sustained manner by the points system (see figure 5.2), it is likely that the type and quality of children’s programs has been affected by the regulation. Since 1977, the ABT varied the children’s program quotas on a number of occasions to require stations to broadcast specially designed children’s programs and first release children’s drama. In many cases, compliance with the regulation necessitated the commissioning of such programs and may have led to some improvement in overall quality. However, the extent of any such quality improvement cannot be assessed from the available data.

---

**Figure 5.2: Average Hours of Children's Programs on Metropolitan Television Stations**

![Bar chart](chart.png)

(a): calendar year

Source: ABCB and ABT Annual Reports and ABT (1990)

---

TCN (and associated stations in other cities) achieved nominal compliance with the quota by obtaining the ABT’s agreement to credit 35 hours of non-peak viewing first release drama in 1984 and 20 hours in 1985 towards its quota obligations.
The points system was partly intended to improve program quality generally by discouraging low budget programs. Its impact therefore may be gauged by changes in the average cost of programs broadcast by stations. Data on program cost are available only from 1982-83 onwards. Figure 5.3 shows, in 1988-89 constant dollar terms, the average hourly cost of Australian programs for Sydney commercial stations in the period to 1988-89. The data suggest a cyclical pattern for average program expenditure rather than a consistent response to regulatory provisions. If anything, the figure indicates a slight decrease in average expenditure per hour of Australian program broadcast between 1983 and 1989 and not the likelihood of quality improvement.

Figure 5.3: Sydney Stations' Expenditure per Hour of Australian Programs

Comparing the overall effects of the points system to its stated objectives, there is little evidence to suggest that it was a major influence on the behaviour of stations. Both in terms of Australian content and Australian drama production, the behaviour of stations appears to have been determined mainly by factors external to the regulation. The possibility, however, that the regulation may have acted as a catalyst for changed behaviour cannot be excluded. It may also have had some impact on stations by setting minimum standards for expected outputs. In contrast, with respect to children’s programming, compliance with the regulation appears to have been the primary motivator for the outputs of commercial stations.
1990 AND BEYOND

The 1990 Provisions

Following an extensive public inquiry by the ABT, new regulatory provisions became operative on 1 January 1990 (ABT 1991a). The inquiry, like all its predecessors, attempted to balance the competing demands of the various interest groups favouring regulation with the interests of the stations. The process was complicated by the ABT’s desire not to exacerbate unduly the financial difficulties then facing the three commercial networks with onerous programming obligations. The ABT was at pains to point out that the “financial impact of the Standard on licensee’s operations has been considered throughout the Inquiry.” (ABT 1991a, vol. 1, p. 29) and that its determination of the requirements took into account viewer preferences, commercial viability of stations and the capacity of the production industry to produce appropriate programs. The outcome was a set of pragmatic provisions with the aim of increasing the diversity and quality of programs without substantially increasing the cost to broadcasters. In particular, the changes were intended to produce small increases in Australian content and adult drama and a more substantial increase in children’s drama.

For example, the transmission quota was set at a level requiring a marginal increase in the output of Australian programs of one network, and then only in the fourth and subsequent years of the new arrangements. This provision contrasted starkly with the initial draft proposal (December 1988) which preceded the financial difficulties of the networks and provided for an initial quota of 50 per cent increasing to 60 per cent over a period of five years. The draft proposal had been justified on the basis that “there appears to be a growing consensus that 60 percent represents the desirable level to preserve a national identity” (ibid p. 223). In opposing the higher level, the stations argued that it would be financially difficult to meet and would reduce their capacity to produce better quality programs in compliance with the drama/diversity requirements. In this context, the ABT noted that in a trade-off between the drama/diversity and transmission quotas, retention of the former was preferred by all groups. This suggests that the drama/diversity scores and the related quality improvement goals were considered to be the more important objective of the regulation.

In setting the requirements, the ABT noted that its guiding principle had been “that of setting a ‘safety net’ at the relevant average program levels reached and sustained in the past” (ibid p. 28). Considering that the Australian content levels and drama levels in the years preceding 1990 exceeded the then regulatory requirements by substantial margins (see above), it is difficult to determine what the regulation was intended to achieve. The intended function of the regulation appears to have been to provide an insurance policy to guarantee that, irrespective of audience preferences or other incentives, stations would continue to provide programs deemed to be desirable. Under those circumstances, the specific quotas would only become binding if changing audience tastes or other factors were to generate sufficient incentives for stations to favour other programs.

Such an approach may produce an undesired negative effect. Given the regular reviews and changes of Australian content regulation, an approach which signals that future
requirements may be set at levels achieved and sustained in the past, is likely to encourage stations to limit their output of regulated programs to ensure they retain some flexibility to respond to changes in audience tastes (BTCE 1991, p. 97).

At present data on compliance with the regulation are available only for the years 1990 to 1994. Generally these data indicate that, in each of the five years, all stations complied with or exceeded the transmission quota requirements as well as the minimum point scores for Australian drama and diversity programs and for children's programs. The only reported breach of the provisions relates to QTQ Brisbane, whose failure to meet the minimum children's drama score by two points was attributed to a scheduling oversight (ABA Trends & Issues 1993b).

Such general compliance might suggest that the regulation was producing the desired effect. However, to establish whether that was indeed the case, it is necessary to ascertain that the results are attributable to the regulation and not to some other unrelated factor. The extent to which the regulation is likely to have contributed to the results is assessed in turn for each of its main elements. The data used relate to the three Sydney commercial stations. Data for other stations are not available. In any event, the data are considered to be largely representative of the behaviour of commercial stations in general, since the Sydney stations are the primary source of programs for the three networks with which almost all commercial stations are associated.

Transmission Quota

The overall Australian content of each of the Sydney commercial stations since the introduction of the current regulatory arrangements is shown in table 5.2. For comparative purposes, the table also shows the level of Australian content transmitted by the stations in the two financial years prior to the introduction of the new requirements.

Table 5.2: Sydney Commercial Stations, Australian Content 1987-88 to 1994

<table>
<thead>
<tr>
<th>Year</th>
<th>Requirement</th>
<th>ATN</th>
<th>TCN</th>
<th>TEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987-88</td>
<td>n.a.</td>
<td>46.0</td>
<td>59.5</td>
<td>44.8</td>
</tr>
<tr>
<td>1988-89</td>
<td>n.a.</td>
<td>51.6</td>
<td>55.2</td>
<td>45.5</td>
</tr>
<tr>
<td>1990</td>
<td>35.0</td>
<td>45.0</td>
<td>49.0</td>
<td>43.0</td>
</tr>
<tr>
<td>1991</td>
<td>40.0</td>
<td>48.0</td>
<td>52.0</td>
<td>45.0</td>
</tr>
<tr>
<td>1992</td>
<td>45.0</td>
<td>51.0</td>
<td>60.0</td>
<td>46.0</td>
</tr>
<tr>
<td>1993</td>
<td>50.0</td>
<td>51.8</td>
<td>58.3</td>
<td>50.4</td>
</tr>
<tr>
<td>1994a</td>
<td>50.0</td>
<td>52.5</td>
<td>61.2</td>
<td>50.9</td>
</tr>
</tbody>
</table>

n.a. = not applicable
a = preliminary results only

Source: ABA (Trends & Issues 1993b, 1994b, and 1996a)
The data indicate that all three stations complied with the transmission quota each year. TCN has maintained its traditional relatively high level of Australian content. In contrast, TEN has had to increase its level of Australian programming by about five percentage points over the period to ensure compliance with the quota. ATN appears to have taken the opportunity to lower its output in line with the reduced requirements in the early part of the review period, but has subsequently increased its output to its 1988-89 level. The behaviour of ATN and TEN suggests that, for those stations at least, the quota is binding. Overall, the data suggest that the regulation is producing the intended small increase in Australian content.

In the period 1990-95, the regulatory arrangements included two specific elements designed to encourage drama and diversity programs. The first required stations to produce enough combined drama and diversity programs to achieve a minimum score of 1320 points in any one year and an average of 1420 points over three years. The second element specified that a minimum of 750 points each year must be gained from Australian drama (850 average over three years). An additional 170 points each year (125 in 1990 only) were to be accrued from children's drama. Any drama (adult or children's) in excess of the minimum score earned points for the diversity score. The drama/diversity scores achieved by the stations are provided in table 5.3.

<table>
<thead>
<tr>
<th>Period</th>
<th>Requirement(^a)</th>
<th>ATN</th>
<th>TCN</th>
<th>TEN</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1987-88</td>
<td>n.a.</td>
<td>1571</td>
<td>1157</td>
<td>1325</td>
<td>4053</td>
</tr>
<tr>
<td>1990</td>
<td>1320 (1395)</td>
<td>2377</td>
<td>1651</td>
<td>1373</td>
<td>5401</td>
</tr>
<tr>
<td>1991</td>
<td>1320 (1420)</td>
<td>1832</td>
<td>1454</td>
<td>1536</td>
<td>4822</td>
</tr>
<tr>
<td>1992</td>
<td>1320 (1420)</td>
<td>2112</td>
<td>1400</td>
<td>1418</td>
<td>4930</td>
</tr>
<tr>
<td>1993</td>
<td>1320 (1420)</td>
<td>1829</td>
<td>1513</td>
<td>1507</td>
<td>4849</td>
</tr>
<tr>
<td>1994(^b)</td>
<td>1320 (1420)</td>
<td>1928</td>
<td>1575</td>
<td>1397</td>
<td>4900</td>
</tr>
<tr>
<td>3-year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990-1992</td>
<td>4215(^c)</td>
<td>6321</td>
<td>4505</td>
<td>4327</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Annual average score to be achieved over three years shown in brackets
n.a. = not applicable

\(^a\) = annual score must include minimum scores of 750 points for adult drama and 170 points (125 in 1990 only) for children's drama.

\(^b\) = preliminary results only

\(^c\) = for the three years ending 1992 only; initially set at 4260 for subsequent three-year periods but has been amended by provisions introduced in 1996.

Source: ABA (Trends & Issues 1993b, 1994b, and 1996a)

---

\(^8\) Excess children's drama may also be used as a substitute for adult drama.
The data in table 5.3 show that all three stations exceeded both the annual minimum and the three-year average (annualised) scores for drama/diversity. In 1992, the drama/diversity score of both TCN and TEN was higher than the required annual minimum but a little less than the average per annum score (1420) to be achieved over three years. Overall, the results suggest that the stations have been meeting their obligations. Because of the composite nature of the score, to assess whether the intentions of the requirements are being fulfilled it is necessary to examine how the stations performed against each of its elements.

As will be discussed below, the separate requirements for drama ensured that the drama component of the overall score was satisfied by the stations. The diversity component of the requirement was intended to encourage stations to broadcast six different categories of programs; namely, social documentary, arts, science, news and current affairs specials, variety, and new concepts. As part of its review of the regulation, the ABA (1994a) concluded that the diversity concept “has not proved an effective incentive in encouraging the broadcast of the six categories of identified programs” (p. 18). It would seem that the introduction of the requirement had produced little change in the programs broadcast by the stations and that they had no difficulty in gaining points for compliance. The ABA notes that only 28 hours of the 76.5 hours of first release Australian social documentaries broadcast in 1992 qualified for a diversity score and concluded that factors other than the gaining of points were clearly influencing the broadcasters’ programming decisions. The diversity provisions were dropped from the amendments to the regulation that became effective in January 1996.

**First Release Drama**

The performance of the Sydney commercial stations with respect to drama is detailed in table 5.4.

<table>
<thead>
<tr>
<th>Period</th>
<th>Requirement</th>
<th>ATN</th>
<th>TCN</th>
<th>TEN</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1987-88</td>
<td>n.a.</td>
<td>1126</td>
<td>719</td>
<td>761</td>
<td>2606</td>
</tr>
<tr>
<td>1990</td>
<td>750 (850)</td>
<td>1510</td>
<td>896</td>
<td>990</td>
<td>3396</td>
</tr>
<tr>
<td>1991</td>
<td>750 (850)</td>
<td>999</td>
<td>935</td>
<td>987</td>
<td>2921</td>
</tr>
<tr>
<td>1992</td>
<td>750 (850)</td>
<td>1258</td>
<td>781</td>
<td>866</td>
<td>2905</td>
</tr>
<tr>
<td>1993</td>
<td>750 (850)</td>
<td>987</td>
<td>852</td>
<td>815</td>
<td>2654</td>
</tr>
<tr>
<td>1994¹</td>
<td>750 (850)</td>
<td>1116</td>
<td>863</td>
<td>885</td>
<td>2864</td>
</tr>
<tr>
<td>3-year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Annual average score to be achieved over three years shown in brackets.
n.a. = not applicable
¹ = preliminary results only

As shown in table 5.4, all three stations exceeded both the annual minimum and the three-year average (annualised) scores for adult drama. TCN was also only slightly above the minimum annual score for adult drama. Nonetheless, the stations met the three-year requirements. Given that TCN’s performance in 1988-89 would have been just sufficient to meet the required score (see figure 5.1 above), it is highly likely that the regulation induced the station to broadcast a higher level of drama than it would otherwise have chosen. Such a conclusion is consistent with reports of statements by the network’s executive chairman (Sims 1993).

The aggregate drama score of all three Sydney stations in 1990 was noticeably higher than in 1987-88. However, after declining gradually in subsequent years, in 1993 the score virtually returned to the same level as in 1987-88. This suggests that the regulatory instrument has failed to achieve at least one of its twin aims of producing an increase in the quantity and quality of domestic drama. To shed some light on this, the analysis compared the quantity and type of drama broadcast by stations before and after the changes in the regulatory provisions.

The hours of first release drama programs broadcast by the three Sydney stations are provided in table 5.5. The data show a gradual decline in the number of hours consistent with the decline in the points score. Virtually all of the decline is attributable to reductions in the quantity of first release drama broadcast by ATN and TEN. The increase on TCN is attributable to the regulation. When the new arrangements were introduced, the drama score was set at a level slightly below the then current average performance of the stations and meant that only TCN was required to increase the quantity or the quality of its drama by a small amount.

<table>
<thead>
<tr>
<th>Year</th>
<th>ATN</th>
<th>TCN</th>
<th>TEN</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988-89</td>
<td>283.0</td>
<td>107.0</td>
<td>229.0</td>
<td>619.0</td>
</tr>
<tr>
<td>1990</td>
<td>300.5</td>
<td>122.7</td>
<td>242.5</td>
<td>665.7</td>
</tr>
<tr>
<td>1991</td>
<td>248.0</td>
<td>163.0</td>
<td>253.0</td>
<td>664.0</td>
</tr>
<tr>
<td>1992</td>
<td>278.0</td>
<td>105.0</td>
<td>236.0</td>
<td>619.0</td>
</tr>
<tr>
<td>1993</td>
<td>249.5</td>
<td>139.5</td>
<td>196.5</td>
<td>585.5</td>
</tr>
<tr>
<td>1994*</td>
<td>214.5</td>
<td>135.5</td>
<td>185.5</td>
<td>535.5</td>
</tr>
</tbody>
</table>

a = preliminary results only

Source: ABA (Trends & Issues 1993b, 1994b, and 1996a)

9 The ABT published scores for 1987-88 during the public inquiry on the new system. No other pre-1990 data are available on this basis.
Encouragement of Quality Drama

The regulation envisaged a situation where broadcasters could trade off quality for quantity. To what extent, therefore, was the observed decrease in quantity followed by an increase in quality? Increased quality, as envisaged by the regulation, would have been reflected in increased usage of higher cost drama such as mini-series and telemovies. While serial and series drama decreased as a proportion of total drama broadcast by metropolitan stations in 1990, in subsequent years the proportion of such drama returned to the levels of earlier periods. This would suggest that program quality as defined by the ABT did not change noticeably. The composition of the drama programs on metropolitan stations is shown in figure 5.4.

Figure 5.4: Composition of Drama Programs on Sydney Stations

![Figure 5.4](image)

Source: ABA (Trends & Issues 1993b, 1994b, and 1996a)

Expenditure on Drama

Comparisons of the proportional composition of drama programs by category would not enable identification of whether there had been a general improvement in the quality of drama across all categories. Had such an improvement occurred, it could not be attributed to the regulation as it would have had no value to the broadcasters either in terms of transmission quota or points for the drama score. That notwithstanding, the available data suggest an across-the-board improvement.

Figure 5.5 shows the estimated average cost per hour of drama in the period 1990-91 to 1994-95. The figure clearly indicates a declining trend in average hourly expenditure consistent with a general decline in quality. The estimates in the figure should be interpreted with some caution. The expenditure data are on a financial year basis and relate to all Australian drama (first release and repeats) while hours of drama are on a
calendar year basis and relate to first release drama only. In a period of declining quantity, application of lagged expenditure data to calendar year quantity data (e.g. 1990-91 expenditure to 1990 quantities) would tend to understate average hourly expenditure. On the other hand, the use of total drama expenditure data will overstate average expenditure by the extent of the expenditure on repeat programs (likely to be a small proportion of each year's expenditure on drama). The combined effect of these two opposing influences, however, is unlikely to lead to a substantial distortion of the overall trend in average expenditure per hour.

![Figure 5.5: Adult Drama Average Expenditure Per Hour](image)


A closer examination of the underlying incentives reveals that expectations of increased quality were unrealistic. The regulation equated quality with cost of production and attempted to neutralise the effect of cost by allocating point scores to different types of drama programs which reflected their average production cost. While higher cost drama often attracts larger audiences than lower cost alternatives, the larger audiences seldom compensate for the higher program costs. Intensity of appeal of higher cost programs may also exceed that of lower cost programs but is typically of little interest to broadcasters with little influence on programming decisions. Consequently, although social welfare may be better served by higher cost programs, it does not necessarily follow that they are favoured by broadcasters.

Furthermore, the production of television programs is a relatively risky activity. Audiences are not guaranteed by high production costs. Indeed audience appeal can be determined only after a program is broadcast, although some factors likely to be attractive to audiences (such as popular stars, stories or plots, etc.) are often used to reduce risk. A serial, representing the lowest cost form of drama, has advantages over higher cost products in this regard. Popularity of a serial can be tested by the production of a 'pilot' episode before committing to full production. If the pilot fails, or the serial

---

10 Separate estimates of the hours of drama in a financial year from the average of the two overlapping calendar years produced slightly larger average hourly expenditure estimates with no significant change to the trend.
fails to attract adequate audiences, production can be discontinued and losses minimised. Once a series becomes established with audiences, it is generally assured a following for an extended period of time and consequently the risk over the life of the series is substantially reduced.

The limited duration of one-shot drama or mini-series (maximum 13 hours in length as defined by the regulation) means that, for a comparable period of total air time, a substantial number of one-shot drama or mini-series would be required to replace a series. Because of the limited duration of such programs, the use of pilots to pre-test audience response is very limited. Consequently, the use of this type of drama compounds the level of risk faced by the television operator, as each new one-shot drama or mini-series faces the danger that it may not appeal to audiences.

Notwithstanding this, the regulatory arrangements themselves contain a disincentive, albeit minor, against higher quality (i.e. higher cost) programs. Although the quality factor takes account of the cost differential between programs for the purpose of compliance with the drama/diversity score, no distinction is made for compliance with the transmission quota. For the latter, compliance is based entirely on the duration of Australian programs. That means that, irrespective of their cost, two programs of equal duration will have the same value for transmission quota purposes. Stations, therefore, would have an incentive to fill as much of the quota as possible with lower cost programs.

**Children’s Programs**

The children’s programming requirements specify separate programming obligations for pre-school (P) children and other children (C). Associated restrictions also affect the advertising revenue of broadcasters by limiting the amount of advertising that can be scheduled when children’s programs are broadcast. No advertising is permitted while P programs are broadcast. For C programs advertising is limited to 10 minutes per hour.\(^{11}\)

Strictly speaking, prior to 1996 the requirement was not associated directly with domestic programming. Any P program, whether domestic or imported, could be used to satisfy compliance. Unfortunately, no data are available on the compliance of stations with the P programs requirement. Informal advice from the ABA indicates that all stations complied with the requirement. The cost of P programs is relatively low and likely to be similar to the cost of substitute programs that would be scheduled in the absence of the requirement. However, the station incurs a loss of advertising revenue of the order of $3000 per half-hour\(^{12}\) of programming because of the ban on advertising.

---

\(^{11}\) Higher advertising limits apply to other programs. A maximum of up to 15 minutes per hour of non-program material is permitted in prime time and up to 16 minutes at other times. However, the hourly average must not exceed 13 minutes in prime time and 15 minutes at other times.

\(^{12}\) The annual P program requirement translates to an obligation of half-hour per day.
The children's programming requirements are also composed of two elements, an overall requirement in terms of hours of programming (both first release and overall) and a more specific requirement for children's drama. As indicated in the discussion of the points system, children's programming is an area that stations generally appear to be reluctant to service without some form of regulation. This is mainly the result of financial disincentives arising from the cost burden associated with first release programming and the low capacity of stations to earn sufficient advertising revenue during the specified children's programming time bands. For example, the 1994 agency rate-card for ATN in Sydney quotes an average weekday rate of less than $300 per 30 second advertising spots during most of the designated time band for C programs. This compares with an average rate of over $5000 per 30 second spot between 6.00pm and 10.00pm. The financial disincentive is exacerbated by the limits on the quantity of advertising that can be transmitted with C programs.

All three stations have barely complied with the requirements for children's drama and children's programming in general. Details are provided in Table 5.6.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C programs (hours)</td>
<td>260</td>
<td>260</td>
<td>260</td>
<td>260</td>
<td>260</td>
</tr>
<tr>
<td>ATN</td>
<td>264</td>
<td>263</td>
<td>261</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>TCN</td>
<td>269</td>
<td>277</td>
<td>264</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>TEN</td>
<td>261</td>
<td>272</td>
<td>300</td>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C Drama (points)</td>
<td>n.a.</td>
<td>125</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>170</td>
</tr>
<tr>
<td>ATN</td>
<td>66</td>
<td>173</td>
<td>173</td>
<td>179</td>
<td>189</td>
<td></td>
</tr>
<tr>
<td>TCN</td>
<td>100</td>
<td>144</td>
<td>173</td>
<td>172</td>
<td>171</td>
<td>179</td>
</tr>
<tr>
<td>TEN</td>
<td>53</td>
<td>131</td>
<td>173</td>
<td>173</td>
<td>179</td>
<td>173</td>
</tr>
</tbody>
</table>

n.a. = not applicable

Source: ABA (Trends & Issues 1993b, 1994b, and 1996a)

The results with respect to children's drama are particularly interesting. There is no evidence of any over-performance, even though the over-performance could be offset against the adult drama requirements. The results are a clear indication that the performance of the stations is driven by the regulatory requirement, and that lower levels of children's drama would be likely to prevail without the requirements.

Children's drama, like adult drama, costs substantially more than other programs. For example, in 1988-89 the average expenditure of metropolitan stations per hour of children's programs, including drama, was $11,200, whereas the cost of one hour of children's drama was about $100,000. Since the audience rating of children's drama is
not substantially different from that of other children’s programs, the reluctance of stations to broadcast drama is readily evident. In this context, the regulation is clearly inducing stations to adopt the desired behaviour.

PROSPECTIVE EFFECTS OF 1995 AMENDMENTS

Following a review by the ABA, a revised Australian content regulation came into effect on 1 January 1996. The principal amendments to the programming requirements were:

- an increase in the transmission quota from 50 per cent to 55 per cent (to commence in 1998);

- the revision of Australian drama/diversity requirements and scoring system and expansion of the definition of drama to include sketch comedy;

- extension of the broadcast time band for Australian drama and for children’s programs and waiving of advertising restrictions for children drama broadcast between 6.00pm and 8.30pm;

- the progressive doubling of first release Australian children’s drama from 16 to 32 hours each year (24 hours in 1996, 28 in 1997 and 32 in 1998 and thereafter);

- a requirement for 8 hours of repeat Australian children’s drama each year;

- prescription that all pre-school children’s programs mandated by the regulation be Australian; and

- the introduction of an Australian documentaries quota of 10 hours per year.

Apart from the new provisions relating to documentaries and increased children’s drama, the amendments are unlikely to have significant implications for broadcasters.

The five percentage points increase in the transmission quota effective from 1998 should pose little difficulty to the channels. TCN is already broadcasting more than that level (61.2 per cent in 1994). The other two networks are currently broadcasting slightly more than required. Both will need to increase their Australian programming to comply with the higher quota from 1998 onwards. On the basis of their 1994 performance, ATN would need to increase its Australian programming by an average of approximately 30 minutes per day and TEN by an average of approximately 45 minutes per day. Obviously, the method chosen by the stations to comply with the higher quota will reflect their respective assessments of the effects of the changes to their programming schedules. From a cost point of view, however, it is unlikely that the increased quota will impose a substantial burden on the stations. Any Australian program, including repeats, can be used to fill the quota at a cost comparable with that of the displaced programs. The audience rating and the related advertising revenue effects are also likely
to be marginal. The programs can be slotted at any time between 6.00am and midnight, providing ample scope to minimise any audience effects by placing them at low viewing times.

The revision to the drama/diversity requirements were intended as a simplification of the existing arrangements rather than a change to the burden of broadcasters. As already noted, the diversity requirements were discontinued. In addition, the scoring procedure was simplified by eliminating the little used ‘partial’ Australian factor. Under the new arrangements, a drama program satisfying the new definition of ‘Australian’ qualify for points. The quality factor, with some minor variations, has been more correctly labelled as a format factor. Overall, the new scoring arrangements are essentially a re-scaling of the scores to take account of these changes and will have only a very marginal impact on the amount of drama required for compliance before and after the change.

The inclusion of sketch comedy in the drama category should provide some additional flexibility in programming selection. Currently, such programming is relatively uncommon on Australian television. The effect of the change is difficult to anticipate. The impact will depend on the relative cost and appeal of such programs. Given that drama is the most expensive form of television programming, there may be an incentive to replace at least some drama with sketch comedy, even if the latter attracts relatively smaller audiences.

As noted above, the first release children’s drama requirements have been an area where the regulation is clearly binding on broadcasters. The progressive increase in the amount of Australian children’s drama required for future compliance will obviously commensurately increase the pressure on broadcasters. As in the past, it is unlikely that broadcasters will supply any substantial amount of children’s drama in excess of that required for compliance. The associated new requirement for eight hours of repeat Australian children’s drama each year is unlikely to cause any difficulty for the stations. Although data are not available, the stations are likely to be already in substantial compliance with this requirement as part of their continuing obligation to supply 130 hours of Australian children’s programs each year.

There are no published data on the national origins of the pre-school children’s (P) programs currently broadcast on Australian television. Informal advice from officers of the ABA, however, indicates that almost all such programming is Australian. Apparently, the only current use of non-Australian programs in this category concerned some recent experimentation with an overseas program by one of the major networks. It is unlikely that there are substantial incentives for stations to use overseas programming to comply with the P programs requirement. The requirement has been in place since 1980 and it is extremely unlikely that any substantial advantages that may have been associated with the use of imported programs would have remained unexploited for such a long period.

The introduction of a first release Australian documentaries quota of 10 hours per year is also unlikely to have a substantial impact on broadcasters. The most recent data on the supply of Australian documentaries by Sydney stations relate to 1992. In that year, ATN
broadcast 63 hours of Australian documentaries, TCN 37 hours and TEN 20 hours (ABA Trends & Issues 1993b). The hours relate to first release and repeat broadcasts, but the proportion of repeat broadcasts is likely to have been less than one third of the total on any station. Using the 1992 performance as a guide, it is unlikely that any of the stations will be facing any substantial difficulties in complying with the quota.

The extension of the drama time band to include all of the seven hours between 5.00pm and midnight (previously a continuous 6 hours nominated by the station) should provide some additional flexibility in the scheduling of programs. The capacity to utilise an extra fringe hour (either 5.00pm to 6.00pm or 11.00pm to midnight depending on the station’s previously nominated band) will facilitate compliance by permitting the use of drama series that failed to attract sufficient audiences for broadcast during peak viewing time.

There is also a possibility that some stations may exploit the extension of the time band by attempting to satisfy the quota by the use of specially commissioned low cost programs for scheduling during the fringe hours. In that sense the extension may erode the effectiveness of the mechanism and work against the initial intention of the quota. This form of exploitation may be further encouraged by the inclusion of the generally lower cost sketch comedy in the drama category.

The extension of the P time band and the children’s (C) time bands should increase the scheduling flexibility of the stations. The waiving of the C band advertising limits for children’s drama broadcast between 6.00pm and 8.30pm is unlikely to prove a significant incentive for such broadcasts. The waiver means that for advertising purposes, children’s drama broadcast between 6.00pm and 8.30pm will be treated the same as any other program shown at that time. To be an incentive to broadcasters the size and demographics of the audience attracted by such children’s drama would have to be of greater value in terms of advertising revenue. Given that the time under consideration is part of the evening peak viewing period, it is likely that programs with a wider appeal would be more profitable, and thus, more preferred by broadcasters.

EFFECTS ON INDUSTRY DEVELOPMENT AND EMPLOYMENT

Although the regulation does not set specific employment targets, the current provisions are clearly linked to the regulation’s underlying employment objective. Stations have always had the general obligation to employ Australians in the production and presentation of programs. More importantly, up to the end of 1995, the current regulation gave ‘Australian’ status only to programs employing Australians in virtually all aspects of production. From January 1996, the requirements for Australian status have been diluted by the extension of its application to official co-productions with other countries. Consequently, to the extent the regulation generates increases in programming output in Australia, it also generates increased employment.

13 Although not adopted by the Broadcasting Services Act 1992, the provision of the earlier legislation was converted into an ABA administered standard by the Broadcasting Services (Transitional Provisions) Act 1992, (S 21(3)).
Increased employment is likely to be an important feature of the first release drama/diversity and children's programming provisions only. The transmission quota, on the other hand, is unlikely to generate sizeable increases in employment since all Australian programs, including repeats, qualify for the quota. As discussed above, the supply of these programs is likely to be less than its current level if the respective quotas were not in place. The main contributor to employment creation is likely to be the first release drama requirements (for both adult and children) because of the tendency of such programs to be substantially more labour intensive than others. Drama also generates substantial demand for post-production labour resources.

CONCLUSION

The analysis in this chapter demonstrates that, while some elements of the current Australian content regulation are having a substantial influence on the behaviour of commercial operators, other elements have little or no effect.

The transmission quota is the element of the regulation with the least impact. The quota was set at a level that was regularly exceeded by stations in earlier years when no specific quantitative requirement was in place. Consequently, its effect has been largely confined to the TEN network which had to increase marginally its transmission of Australian programs. Since any program, including repeats, qualifies for the transmission quota, the resultant financial burden on the network is likely to be minimal. The impact of the quota is unlikely to change significantly as a result of the projected increase to 55 per cent in 1998. The transmission quota, by itself, is also having little impact on employment generation.

More substantial effects flow from the drama requirements for both adults and children. It is evident that at least one network (TCN) would screen a lower level of adult drama and that all three networks would screen substantially lower levels of children's drama without the regulation. Because compliance with the requirements is secured only by first release drama programs, produced with predominantly Australian resources, it is likely that a substantial flow-on employment effect is also generated. The regulation, however, has proved ineffective in encouraging stations to broadcast higher quality (higher cost) drama.

It is also possible that the regulatory mechanisms have had an indirect impact on the behaviour of stations. By setting minimum standards for expected outputs, the regulation may exact moral suasion on stations, particularly if they wish to portray themselves as responsible corporate citizens. Furthermore, the stations may also be willing to adopt the minimum standards in order to pre-empt the possibility of greater regulatory intrusion in their operations.
CHAPTER 6 METHODOLOGY FOR MEASUREMENT OF COMMUNITY BENEFITS

INTRODUCTION*

The likely existence of some form of market failure is not sufficient justification for government intervention in a market. For intervention to be justified, it is also necessary to demonstrate empirically that society is likely to be made better off. Whether a net benefit is generated by the intervention cannot be determined without actual measurement of all the associated benefits and costs. However, where non-traded commodities are involved, the measurement of cost and benefits can be complex.

The amount of money that an individual is prepared to pay to secure a commodity, or is prepared to accept to forgo its loss, provides a measure of the value of that commodity. For a marketed commodity, the amount paid reveals that an individual places at least that amount of value in obtaining possession of that commodity. The intensity of demand for the commodity is reflected by the maximum amount people would be willing to pay to secure a given quantity of the commodity. The difference (if any) between willingness to pay and the amount paid is referred to as consumer surplus.

Monetary values are readily revealed for commodities regularly traded in the marketplace. The value of non-traded commodities such as unimpeded views, proximity to community facilities, clean air, wilderness conservation, protection of wild life etc., is more difficult to determine. However, for them also, willingness to pay to secure the associated benefits can provide a basis for the estimation of their value.

Cost-benefit analysis often encounters situations requiring valuations of costs or benefits of 'effects' which are not traded in a market. Many public goods and externalities fall in this category. In such cases, the usual approach of inferring the relevant value from direct market data cannot be used. This necessitates the use of one of the several indirect valuation measures that have been developed to measure the value of benefits when market data are not available. The mechanisms include hedonic pricing (Rosen 1974), which uses direct and indirect market data to draw inferences about related commodities, and the use of techniques, such as conjoint analysis (Louviere 1988) and contingent valuation (Mitchell and Carson 1989), that use surveys to identify stated preferences of individuals in the context of hypothetical markets for the commodity.

The indirect measure selected for this study is contingent valuation. As Throsby (1994) points out, contingent valuation is amenable to the evaluation of diffused community demand for a social good such as the arts. It has been used extensively to estimate costs and benefits associated with non-marketed environmental resources, but there are also examples of successful applications in other areas including estimation of benefits from

* An earlier version of this chapter and Chapter 7 was published as Papandrea (1996).
the arts (Throsby and Withers 1986, and Morrison and West 1986) and television (Ehrenberg and Mills 1990). The methodology uses a survey mechanism to create a hypothetical market that allows respondents to state their willingness to pay for the non-market commodity of interest.

This chapter discusses the underlying theory and features of contingent valuation and the validity of its use to estimate whether benefits derived from domestic television programming are commensurate with the associated costs. It also describes the development design of the survey instrument used in the contingent valuation. The objectives and motivation of the various questions in the survey are explained together with the approaches taken to minimise the effect of bias inherent in this type of survey. The analysis of the data collected in the survey is presented in the following chapter.

**BENEFITS AND THEIR MEASUREMENT**

Consumption of a commodity may give people both use and non-use benefits particularly if the commodity has public good characteristics. Use benefits accrue from all current and projected personal utilisation of the public good. Non-use benefits represent the utility derived by the individual from other than personal use. For example, individuals may derive utility from the knowledge that they have an option to watch domestic television programs if they wish to do so. Government interventions in a market are designed to alter the level of benefits derived by society and may affect both use and non-use benefits. In the evaluation of an intervention, the total value of all costs and benefits associated with the intervention need to be taken into account.

Because of their intangible nature, non-use benefits can be difficult to define. They may occur in a variety of forms including:

- Vicarious consumption (including altruism) which relates to the utility derived from knowing that consumption is undertaken by others in general or by particular people (e.g. children) known to the individual deriving the value.

- Stewardship values that arise from the desire to preserve a public resource (e.g. national identity) for future generations. This also includes bequest values and inherent values (e.g. preservation of a national identity is thought to be inherently valuable).

- Option value which is derived from the retention of the opportunity to make use of the benefits at some future date.

- Quasi-option value which represents the opportunity value of not doing something that may involve an unquantifiable risk of irreversible loss.
THEORETICAL UNDERPINNINGS OF CONTINGENT VALUATION

Contingent valuation has become a frequently used tool to assess the value of non-market resources and commodities with public good characteristics (Carson et al 1995). Typically, what is being assessed is the value associated with a change in the level of provision of some benefit. Whether the change in the provision levels is efficient depends on the resultant net change in the level of social welfare.

Following the simplified framework of Fisher (1994), it is assumed that an individual derives utility from both market and non-market goods. Thus the individual’s utility function may be represented as $U(x, z)$ where $x$ and $z$ are vectors of market goods and non-market goods respectively. As the provision of non-market goods is not subject to individual control, the individual’s problem will be to maximise utility by choosing market goods subject to the budget constraint. The problem may be expressed as:

$$\text{max } U(x, z) \quad \text{subject to } px = y$$

where, $p$ is a vector of prices and $y$ is the individual’s income. The ordinary demand functions derived from the solution of the constrained optimisation problem are:

$$x_i = h_i(p, z, y) \quad i = 1, ..., n$$

where $i$ is the index for the $i$th market good. From this, the indirect utility function may be defined as:

$$V(p, z, y) = U[h(p, z, y), z]$$

where utility is expressed as a function of prices, income and non-market goods.

Variation of the level of non-market goods leads to a change in utility. It is assumed that prices and income remain constant and that one element only of the non-market goods vector $z$ is increased with the level of all the others remaining unchanged. Using the superscripts $0$ and $1$ to denote the states of the varying element before and after the increase, then,

because $z^1 > z^0$ it follows that:

$$U^1 = V(p, z^1, y) > U^0 = V(p, z^0, y).$$

The compensating variation measure of the utility change ($c$) can be expressed in terms of the indirect utility function

$$V(p, z^1, y - c) = V(p, z^0, y)$$

where $c$ represents the amount of money loss that the individual could incur after the change in $z$ and still retain the level of utility prevailing before the change. The compensating variation is also equivalent to the individual’s maximum willingness to pay...
(WTP) for the change which is what contingent valuation seeks to obtain from respondents. Since the non-market good is presumably a public good, the total value of the change is given by aggregating the individual WTPs over the whole community\(^1\).

Thus, by eliciting the value that individuals place on discrete changes in the level of provision of a public good, contingent valuation is capable of producing the appropriate Hicksian measure for the discrete change without having to estimate the relevant demand curve. For consideration of marginal changes that are often encountered in policy formulation, it would be desirable to estimate an equation which gives WTP as a function of the level of provision of the public good. In practical terms, however, estimation of the function is difficult because the functional form and the appropriate taste variables are generally unknown. As a practical alternative, Mitchell and Carson (1989) suggest that, even where a specific quantity change is being considered, it would be prudent for researchers to seek additional valuations from respondents for at least a higher and a lower level of change. This would enable assessment of the sensitivity of the benefit estimate to the quantity change under consideration.

**CONTINGENT VALUATION PROCEDURE**

The objective of contingent valuation is to set up a hypothetical market exchange that encourages individuals to make ‘bids’ that are close to those that would be revealed if an actual market existed. However, revelation of realistic bids is unlikely to occur if respondents are not familiar with the good in question, with the change in the level of provision, with the range of available substitutes and with the proposed method of payment. The hypothetical market may be modelled on a private goods market or on a political market, but its description and operation must be plausible to respondents.

A private goods market model provides respondents with the choice of access to the benefits of a public good at a range of prices. The elicitation is often in the form of a bidding game similar to an auction. This model is best suited to quasi-private goods (e.g. hunting licences, access to national parks) where the benefits obtained are often familiar to respondents. Its use in other situations may be less successful since people may have difficulty in imagining that they can exercise exclusive use of some public goods (e.g. clean air).

A problem associated with the private goods market model is that even a few respondents making extreme valuations can have a major impact on the survey's mean valuation which is then used to derive the aggregate benefit for the relevant population (Mitchell and Carson 1989). Another problem is that private goods market behaviour may not necessarily be relevant to some public goods as people may be influenced to act in a public-spirited rather than self-interested manner (Buchanan 1954). This suggests that, in the valuation of some public goods, political markets may be more relevant than private markets.

\(^1\) The same process can be used to demonstrate how contingent valuation leads to an individual’s willingness to accept compensation when a reduction in the level of a public good is involved.
In a political market the valuation of a public good is derived from a referendum of the relevant population. In a contingent valuation referendum, respondents are asked whether they would be willing to pay a specific sum in order to preserve a benefit and are given a simple ‘yes/no’ choice. Different sums are put to a number of sub-samples. The median value (i.e. the amount approved by half of the population) is used as the basis for the total valuation.

The simple discrete choice offered to respondents in a referendum can be a major drawback of the political market model. A ‘yes’ response to a specific amount does not necessarily indicate the respondent’s maximum willingness to pay for the commodity. Acceptance simply indicates that the amount is less than, and only at most equal to, the respondent's maximum willingness to pay. To overcome the problem at least partly, it is necessary to use sufficiently large survey samples and to incorporate a series of additional questions to establish upper and lower bounds for willingness to pay.

**APPROPRIATE VALUATION MEASURE**

Contingent valuation surveys can be framed in terms of either maximum WTP for a benefit or maximum willingness to accept (WTA) compensation for the loss of a benefit. These measures correspond to the Hicksian compensating and equivalent variation measures of changes in welfare. The choice of which of the two measures is appropriate in a particular situation hinges upon whether individuals own a property right to enjoy the benefit or whether they have to acquire the property right in order to enjoy the benefit. While property rights over market commodities can be determined readily in terms of ownership or use, the ability to determine property rights over non market commodities varies with the degree of ‘publicness’ of the commodities. It is most difficult for pure public goods, such as clean air, where individual ownership and use are virtually impossible to establish.

The theoretical expectation is that, where a private good has a positive income effect, WTA will exceed WTP. However, Willig (1976) showed that where the income effect is small and welfare changes are due to a change in the price of a commodity, the difference between WTP and WTA should be small. In a subsequent development, by appropriately modifying the Willig results, Randall and Stoll (1980) demonstrated that similarly bounded WTP and WTA values should apply also to quantity changes, provided that expenditure on the commodity was small relative to total income. These developments led to expectations that, in the absence of large income effects, the results would be applicable to changes in quasi-public goods such as environmental amenities. However, in contrast to theoretical expectations, contingent valuation studies and experiments have consistently produced WTA estimates that are considerably larger than WTP estimates for the same benefit. These results have generated a lot of debate on

---

2 The income effect is directly dependent on the income elasticity of demand of the commodity and on the share of the consumer’s budget devoted to the commodity.
which of the two measures is the more reliable and on whether contingent valuation is capable of producing reliable estimates.

The cause of the large discrepancy between WTP and WTA values was investigated in studies of situations where respondents purchased real goods with real money (e.g. Bishop and Heberlein 1979, Bishop, Heberlein and Kealy 1983) and in a number of laboratory experiments (e.g. Knetsch and Sinden 1984, Gregory 1986). These studies did not support suggestions that the differences were due to the hypothetical nature of contingent valuation surveys or to methodological artefacts and indicated that they were likely to be due to real differences between the two measures. Another study by Coursey, Hovis and Schulze (1987) suggested that the divergence may be due to incomplete decision processes by respondents. They used a Vickrey auction technique to test for this and found that the two values converged with successive iterations. The convergence, however, was due largely to movements of WTA values. In contrast, WTP values tended to be quite stable.

A variety of potential explanations have been offered by researchers attempting to account for the divergence between WTP and WTA. They range from attempts to reconcile the differences in terms of traditional theory to the use of alternative behavioural models to explain the variations (Kahneman and Tversky 1979 and 1982; Gregory 1986). One explanation of the divergence, based on economic theory and partly supported by experimental results, has been offered by Hanemann (1991).

Hanemann argues that the income and substitution effects influence valuations of quantity changes. While WTP has a finite upper limit equal to total income, WTA is unbounded. Consequently, large differences in the two values are possible. Hanemann demonstrated that, given a positive income elasticity, divergence between WTP and WTA varies with the degree of substitution between the commodity in question and other commodities. The more unique the commodity is, the less likely that individuals will readily accept compensation for reductions in its quantity. Thus, convergence in the values should be expected only where a close substitute for the commodity is available. In other situations, the divergence between the values increases inversely with the degree of substitution. A study by Shogren et al (1994) tested the Hanemann hypothesis in an experimental auction market for market goods with close substitutes (candy bars and coffee mugs) and for non market goods with imperfect substitutes (food items with different levels of screening for contamination). The study provided support for Hanemann’s arguments, but suggested that more research was warranted to try and resolve the discrepancies between theoretical and observed valuation measures.

Overall, the emerging consensus appears to be that WTP should be used wherever possible. Based on the results of their experiments, Coursey, Hovis and Schulze (1987) conclude that the hypothetical measures of WTP correspond more closely to market

---

3 Essentially this is a modification of the traditional sealed bid auction where the lowest bid wins (or highest depending on whether WTA or WTP is involved) but the amount paid is the second lowest (highest) bid.

4 Mitchell and Carson (1989, pp. 34-38) provides a summary of various potential explanations for differences in WTP and WTA.
values than those obtained using WTA. In addition, Mitchell and Carson (1989) argue that, in a public good case, WTP is the appropriate measure for assessing the value of both increases and decreases in the level of provision. They note that, in general, consumers are collectively paying for the provision of a public good. For a decrease in the level of provision, therefore, the appropriate Hicksian compensating variation is the amount the consumer is willing to pay to avoid the reduction in benefits. Consequently, they suggest that WTP is the appropriate measure for most contingent valuation surveys.

VALIDITY OF CONTINGENT VALUATION METHOD

The contingent valuation technique of using surveys to measure willingness to pay for unpriced amenities was first applied by Davis (1963) who used questionnaires to estimate the benefits of outdoor recreation. Since then the technique has undergone extensive development and has been used in numerous empirical studies (see Carson et al 1995). Most of these studies have been concerned with estimating use values of non-market commodities. During the past decade the method has been applied increasingly to the measurement of non-use or existence values and total values which may include a substantial proportion of passive-use (or non-use) values.

The application of contingent valuation surveys to measure passive-use value, mainly in relation to environmental damage reparations, has generated extensive critical debate among economists. Supporters of such applications contend that contingent valuation is "the only method available for the measurement of non-use value" which, when used with care, can give reliable estimates (Mitchell and Carson 1989). Critics, on the other hand, contend that contingent valuation surveys of passive-use values do not have the capacity for reliable revelation of underlying consumer preferences. They also contend that such valuations are susceptible to incentive bias problems and to large variations in willingness to pay results (see, Diamond 1994, Hausman 1993 and Kahneman and Knetsch 1992).

In an attempt to resolve the controversy, the National Oceanic and Atmospheric Administration (NOAA) of the United States appointed a panel of eminent persons, co-chaired by economics Nobel laureates Kenneth Arrow and Robert Solow, to consider the reliability of contingent valuation estimates of passive-use value of natural resources. The panel concluded that, by following recommended guidelines on the survey sample and questionnaire design and pre-testing, the methodology "can produce estimates reliable enough to be the starting point of a judicial process of damage assessment, including lost passive-use values." (NOAA 1993)

The applicability of contingent valuation surveys to the measurement of use values derived from non-market commodities is more widely acknowledged. This is particularly so in relation to quasi-private goods and in situations where respondents are clearly

---

5 This is the value associated with non-direct use of an amenity, such as willingness to pay to preserve a natural resource for its own sake rather than for personal use. The valuation of the Kakadu Conservation Zone (Imber, Stevenson and Wilks, 1991) is an example.
aware of, and are familiar with, the benefits accruing to them\(^6\). These conditions clearly pertain to the application of contingent valuation in this study.

The widespread availability and extensive consumption of television makes it one of the most familiar, regularly consumed services in Australia. Domestic programs are popular and are generally easily recognised. Although no direct consumption charges are involved\(^7\) to watch free-to-air television, consumers do incur an indirect cost in the form of the opportunity cost of their time. Extensive publicity and media interest surrounding the introduction of subscription television at the time the survey was conducted is likely to have alerted respondents to the value of television services. Respondents were also likely to have had at least some experience with marketed substitute products (cinemas, videos, etc.). Competition for audiences among free-to-air operators ensures that individuals have to choose between programs every time they decide to watch television. In such circumstances, it would be highly unlikely that consumers are not readily aware of at least the private benefits derived from television programs in general. Furthermore, the use of contingent valuation in this study is supported by evidence of its successful application to measure similar benefits from the arts (Thompson, Throsby and Withers 1983, Throsby 1984, Morrison and West 1986).

In addition to determining the applicability of contingent valuation for a particular purpose, it is also necessary to demonstrate the validity of the intended use. In this context, validity is defined as the efficacy and capability of an instrument to measure what it was intended to measure. Schuman (1994) identifies three principal forms of validity that should be satisfied by contingent valuation surveys:

- face validity (or content validity);
- predictive validity; and
- construct validity.

Of these, face validity is the most easily satisfied. It essentially refers to the assessment of whether the questions used in the valuation are clear, reasonable and unbiased, and motivate respondents to answer thoughtfully. To ensure face validity, considerable care must be taken in the drafting and testing of questions prior to administration of the survey.

Predictive validity refers to the ability of the survey to predict actual values. This is more difficult to test directly, particularly in cases where contingent valuation appears to be the only option for valuing a non-market commodity. Replication of results using different mechanisms can help establish confidence in the predictive validity of an instrument. Several experiments, including those of Dickie, Fisher and Gerking (1987), Brookshire

---

\(^6\) Based on the results of an experimental study, however, Kealy, Montgomery and Dovidio (1990) maintain that lack of familiarity or experience with a commodity may have little influence on the reliability and predictive validity of contingent valuation.

\(^7\) Annual receiver licence fees were abolished in 1974.
and Coursey (1987) and Heberlein and Bishop (1986), have compared contingent valuations with other valuations and market prices and generally support the predictive ability of contingent valuation.

Construct validity may be assessed from observations of whether the performance of the survey measure is consistent with theoretical expectations and observed variations in related variables. For example, it should be possible to demonstrate that contingent valuations do not conflict with rational expectations, and are consistent with ordinary market behaviour (e.g. larger quantities of a commodity are valued more than smaller quantities) and budget constraints. There is no ultimate or absolute criterion for determining construct validity. Usually, its assessment is derived indirectly by comparing the measure with a number of other measures as a way of building confidence about its efficacy.

Reliability is another important aspect of survey measurements. It refers to the ability to replicate a consistent result by varying some dimension of the survey that does not involve a real change. This could include the re-application of the same instrument to the same sample at a different time, or to a different, but equally representative, sample. In relation to contingent valuation surveys, Schuman (1994) believes that “estimates based on large samples are likely to be quite reliable in an aggregate sense” (p. 6). In his view, given the characteristics of contingent valuation surveys, to ensure precision the “total sample size will need to be above the 1000 or so that might otherwise be sufficient for estimates of simple averages” (p. 13).

BIAS

The use of surveys to assess willingness to pay for public goods may also be prone to various types of biases which systematically produce results that differ from true unobservable preferences (Bishop and Heberlein 1979; Mitchell and Carson 1989). Perhaps the most important of such biases is strategic bias associated with free rider behaviour. As pointed out in Samuelson’s (1954) classic paper, the non-excludable nature of public goods creates an incentive for individuals not to reveal their true willingness to pay for the supply. This occurs because respondents may perceive that they can influence the outcome for personal benefit by not revealing their true valuations in answers to a survey. While strategic behaviour can be a serious impediment to survey techniques, its impact on results may be minimised with use of appropriate design methods (Hoehn 1983, Mitchell and Carson 1989).

Various other important biases may also affect contingent valuation surveys (see Mitchell and Carson 1989). These include:

- the influence of different levels of information on willingness to pay (information bias);

- ‘starting-point’ bias that arises from the provision of information that may be taken by respondents as an indicator of the value that they are expected to adopt;
• aggregation bias where the willingness to pay indicated for a group of commodities may differ from the sum of the valuations for the individual commodities; and

• compliance bias which may result from attempts by respondents to give answers attempting to please the interviewer or the sponsor of the study.

To limit bias, survey questionnaires have to be carefully designed and tested to avoid various forms of context mis-specification such as perceived property right, method of provision and budget constraint. Similarly, the sample design needs to ensure that it adequately corresponds to the relevant population, and that the relevant parameters are not unduly affected by non-responses.

THE VALUATION SURVEY

The Australian Bureau of Statistics (ABS) was commissioned to collect the survey data as part of its Population Survey Monitor (PSM) quarterly survey conducted in November 1994. The PSM collects data from households in private dwellings in rural and urban areas across all States and Territories of Australia. The valuation questionnaire was a self-contained section of the overall questionnaire administered to respondents. Information on the demographic characteristic of respondents and their households was collected in a self-contained section of the survey instrument. In the survey, the questions for this study were preceded in sequential order by the common demographic questions, a section with questions on book reading habits (including several questions on borrowing and purchase of Australian books), and questions dealing with participation in organised sports by adults and children as well as attendance as spectators at sporting events. These parts of the survey were considered to be compatible with both the approach and subject matter of this study as well as helpful in familiarising respondents. Questions on a number of other topics followed the valuation questions.

An initial representative sample of 3,156 private dwellings was chosen for the survey. After allowing for sample loss arising from a variety of factors, such as vacant dwellings, refusals and non-contacts, the effective sample size reduced to 2,193. To ensure representativeness of the responses obtained from those households, weights designed to adjust for minor variations in the age/gender distributions of the sample and population were subsequently applied to the responses. The information was collected in face-to-face interviews with adult members of selected households. The interviews were conducted by trained interviewers with extensive experience in conducting household surveys. A detailed description of the sample and of the survey methodology is provided in Appendix III.

The ABS also assisted in the design and structure of the questionnaire which included mechanisms to control for the biases mentioned above. The questionnaire was pre-tested

---

8 Age of 18 years or more.
in two formal pilots (each with 80 respondents) conducted by the ABS in Adelaide and in a smaller pilot (20 respondents) conducted by the author in Canberra.

DEVELOPMENT OF THE SURVEY QUESTIONNAIRE

The principal aim of the survey was to elicit the community's willingness to pay for Australian content of television programs. As the regulation has both general (i.e. transmission quota) and specific requirements (drama and children's programs), information was also sought on the relative valuation placed on the various types of programs that are regular features of the programming schedules of television services.

Apart from the principal objective of determining the benefits accruing from Australian content regulation, the survey also had to satisfy several related information needs including:

- the respondents' perception of the general benefits derived from activities likely to influence national culture and identity;
- the respondents' consumption of television programs in general and of related commodities;
- the respondents' preferences for Australian television programs and perception of the benefits derived from consumption of such programs; and
- the socio-demographic characteristics of respondents.

These information requirements were the main determinants of the design and structure of the survey questionnaire. As the valuation survey is a subset of a larger survey already collecting extensive demographic information on respondents, the valuation questionnaire did not have to include such questions. The questionnaire contains four inter-linked parts:

- questions designed to introduce the concept of national culture and identity and related factors with the twin aims of collecting respondents' views as well as ensuring that respondents have at least a minimal level of understanding of some of the issues involved;
- questions on the consumption of television services and other selected commodities with similar attributes (cinema and video hire);
- questions on attitudes and preferences for Australian programs; and
- questions on willingness to pay for Australian television programs.

Apart from the valuation questions, the development of the survey questionnaire was relatively straightforward. Budget constraints limited the number of questions and meant
that some of the less important information needs identified for the study had to be sacrificed partially. In general, the aim was to develop clear and concise questions focusing on the principal information needs. The workability of all the questions was tested in pilot surveys\(^9\).

Because of their crucial role, particular effort was devoted to the development of the valuation questions. Several formulations and approaches were considered and their efficacy was tested over a period of some months. Although the end product of such a process invariably benefits from the resolution of the problems and difficulties encountered along the way, the extent of the problems and difficulties encountered are seldom evident from casual observation of the final questionnaire. It may be useful, therefore, to consider the development of the valuation questions in some detail.

A primary aim of the design was to guard against potential distortions due to strategic and information biases. The Throsby and Withers (1986 and 1994) approach (based on Bohm’s (1972, 1979 and 1984) method) of controlling for free-rider behaviour by posing the valuation question in both a liable and non-liable format was tested in the first formal pilot. Immediately prior to being asked the valuation questions, respondents were informed that Australian programs are financed from taxation and from the advertising component of the prices of goods and services. They were then posed an open-ended question seeking their maximum willingness to pay if taxes and prices were to be adjusted accordingly to ensure continued supply of the current level of Australian programs. The non-liable question similarly sought a maximum willingness to pay amount if no adjustment to taxes and prices were to be made. The order in which the liable and non-liable questions were posed was reversed for half of the respondents. The two questions were posed again after informing respondents of the approximate annual average charge per household imposed by Australian television programs. This was intended as a test for the effects of information bias.

It was clear from the pilot results that respondents found the wording and repetition of the liable and non-liable questions confusing. The general assessment of interviewers was that the combined length of the information on the payment vehicle and the valuation question was causing respondents to lose concentration. Interviewers also reported that some respondents suspected the purpose of the question was to test the acceptability of the possible introduction of a viewers’ licence fee. Also, most respondents had substantial difficulty in stating an amount in the ‘uninformed’ state. Interviewers reported that respondents had considerable difficulty in deriving a figure with a large number of them opting for a ‘don’t know’ or an unquantified ‘same as presently paid’ response. In the informed state, on the other hand, respondents had been generally willing to nominate a figure. These findings indicated that substantial changes were necessary to improve the effectiveness of the questionnaire.

For the second pilot test, the open-ended willingness to pay questions were replaced by a two-part ‘referendum’ format designed to assess willingness to pay for the current level of supply of Australian television programs, as well as willingness to pay for a marginal increase in the supply. This approach avoided the liable/non-liable format that had been confusing to respondents in the first pilot. It also enabled inclusion of information on

---

\(^9\) As is the case for all surveys, while extensive pre-testing will minimise face validity problems it cannot guarantee complete workability of all the questions.
current average cost per household to be introduced as an integral part of the valuation question. It was recognised that the provision of information on the average cost per household opened up some scope for the introduction of starting-point bias. Consequently, largely with the aim of eliminating the possibility of such bias, the valuation question was framed in the form of a comparison between perceived value and average cost. Any remaining bias from this source was also thought to be outweighed by the benefits of better informed answers from respondents.10

The wording adopted for the second pilot was as follows:

On average each household currently contributes about $100 per year in higher prices and taxes to finance Australian TV programs. Do you believe your household is getting more than, less than, or about your money's worth in Australian TV programs?

The second part of the valuation process used a dichotomous choice question to identify respondents willing to pay for a 10 per cent increase in Australian programs. Those responding 'yes' were then asked to state the maximum amount they were prepared to pay for the increase.

The expectation was that, to answer seriously the question on the level of benefits to their household, respondents needed to think about the perceived benefits and compare them to the stated amount. The pilot confirmed the workability of this question and provided some useful information on possible refinements to improve its wording.

With further consideration it was felt that some refocussing of the wording was likely to improve the quality of the information collected from respondents. In the rewording the preamble to the question was modified slightly to emphasise the nature of the payment by households. The question itself then asked respondents to consider both the private benefits to their household and the external benefits to the community before asking them to indicate their view on whether the level of payment per household should be increased, decreased or stay the same. To enhance further the value of the collected data, it was decided that those indicating that the level of payment should be increased or decreased would be asked to indicate their maximum willingness to pay “to retain the current amount of Australian programs on TV.”

Questions asking whether expenditure for a quasi-public good should be increased, decreased or stay the same are likely to lead respondents to evaluate the difference between the marginal cost and the marginal benefits (i.e. the perceived net marginal benefit) derived from an incremental change in the level of provision. Their practicality has been demonstrated in previous studies. Maital (1979) suggests that, when faced with this type of question, an individual will answer 'stay the same' unless the net marginal benefit is perceptibly different from zero. He applied the concept to estimate marginal perceived benefits from a range of public goods. A more sophisticated model based on a similar concept was developed and used by Bergstrom, Rubinfeld and Shapiro (1982) to estimate a demand function for school expenditures from survey data.

---

10 Potential income effect distortions arising from the use of a single amount for all income classes were assessed to be small as only 26 per cent of the expenditure is raised from taxation. The rest is raised from TV advertising which tends to be skewed towards mass consumption goods and services with low income elasticity of demand.
It was also evident from the pilot that the question on willingness to pay for a 10 per cent increase in Australian programs had to be modified to ensure its effectiveness. According to interviewers, respondents were reluctant to commit themselves to an 'open-ended yes' response with many indicating that they may have been prepared to give a 'conditional yes' depending on the amount involved. Consequently, it was decided to revise the latter question to ask respondents whether they were willing to pay a given amount for a 10 per cent increase in Australian programs. As a preamble, respondents were asked also to consider the question even if they did not watch many Australian TV programs. The aim of the preamble was to ensure that respondents took any perceived external benefits into account in their answers. Follow up questions were also devised to seek respondents' maximum willingness to pay for the proposed increase.

Although confident of the likely effectiveness of the revised valuation questions, a further pilot survey was conducted to ensure that the success of this crucial aspect of the survey was not left to chance. This further precautionary pilot was conducted by the author among 20 Canberra adult residents. The full questionnaire was tested in the pilot. The results confirmed the expectations on the likely effectiveness of the questionnaire.

**STRATEGIC BIAS**

The final wording of the valuation questions is consistent with an incentive-compatible referendum format (Zeckhauser 1973; Hoehn and Randall 1987) supplemented by a follow up question asking appropriate respondents to state the most they would be willing to pay. This approach was thought likely to present respondents with little incentive to give strategically biased responses. Nonetheless, the first of the valuation questions could have been prone to some potential strategic behaviour.

Each of the three possible responses to the question asking respondents whether expenditure on domestic programming should be changed offered little scope for strategic behaviour. It is unlikely that there would have been an incentive for rational respondents to indicate a reduction in expenditure if their valuation of the accruing benefits was equal to or exceeded the amount stated in the question. Indeed, for such respondents there would have been a disincentive to suggest a reduction in expenditure because, if implemented, the reduction would make them worse off. For similar reasons, respondents genuinely answering that the expenditure should be reduced had little incentive to overstate the level of reduction in response to the follow up question on their maximum willingness to pay.

In most cases it would not have been in the respondents' interest to indicate an increase in expenditure unless the benefits derived were valued more than the current household average cost. Nonetheless, the non-liable format of the initial question offered some scope for strategic behaviour. Some respondents may have seen a possibility of securing increased benefits from increased expenditure for which they would not personally be liable. For example, someone paying little or no tax may have seen an advantage from an increase at least partially financed from tax revenue. The liability format of the supplementary question was intended as a partial correction for any such tendency.
Furthermore, cross-tabulations of the answers to this question with those of the subsequent valuation question (on preparedness to pay a given amount for a 10 per cent increase in domestic programming) was likely to be useful in identifying and assessing the impact of such strategic behaviour.

There was also a possibility that some of those indicating that the expenditure should not change may have been acting strategically. Individuals receiving benefits in excess of the current average cost per household may have perceived an advantage in responding in a way that would ensure its maintenance. That likelihood was thought to have been low. Any such individuals would have had to have a clear appreciation of their household’s contribution to Australian programming to secure a real advantage from their answers. In any event, the effect of any such bias would be to induce respondents to understate their valuations and would be consistent with the NOAA(1993) panel guidelines recommending that options tending to underestimate benefit valuations should be preferred in such situations. The issue of strategic behaviour is discussed further in relation to the survey results in the following chapter.

THE QUESTIONS

The valuation questionnaire comprised a total of 20 questions, some of which had a number of separate parts. These questions are broadly described below. Questions on demographic characteristics of respondents were included elsewhere in the overall survey instrument. Those questions are not described below. Data were collected on a broad range of commonly collected demographic characteristics of respondents including age, gender, income, employment status, education, number of children, place of birth (Australian- or overseas-born), etc.

Question 1 introduces the concept of national identity and culture to respondents and probes their perception of some of the cultural benefits that are deemed to accrue from consumption of Australian films and television programs. The question was accompanied by a prompt card offering respondents a choice of four optional answers, namely ‘strongly agree’, ‘agree’, ‘disagree’, ‘strongly disagree’. Although not shown on the prompt card, there were also provisions for the interviewer to record ‘neither’ (agree nor disagree) and ‘don’t know’ responses where respondents had difficulty in choosing one of the four alternatives. The prompt card technique with the additional scope to record ‘don’t know’ responses (and in some cases ‘have no influence’ responses) was used throughout the questionnaire. Question 1 comprised five separate parts, dealing with pride in international achievement, meaningfulness of domestic programs, contribution to understanding of way of life, preference relative to imported programs and contribution to appeal of television.

Questions 2 to 5 sought information on consumption of television, cinema movies and videos (i.e. commodities with similar attributes to television). Details of video recorder ownership were also sought. Information on consumption levels was augmented by a question on whether respondents' demand for the commodities was affected by their national origin (question 5). The specification ‘good quality film’ was added to the
question to neutralise the effect of unspecified quality which caused some confusion to respondents to the first pilot test. Information on television viewing was sought with question 6. Subsequent questions (7-9) sought specific information on viewing of several categories of television programs and opinions on whether the amount of Australian programming in those categories should be increased or decreased.

The principal aim of questions 2-9 was to help build up a profile of respondents in terms of their consumption of television programs and substitute commodities and of their disposition towards Australian programs. The expectation was that this profile, together with demographic characteristics of respondents, would be used to identify factors that influence the community's valuation of Australian television programs. These questions were also aimed at sensitising respondents' to the role that television and other substitute commodities play in the audio-visual market.

The four parts of question 10 sought to identify the opinions of respondents on different aspects related to Australian television programs. The first two of these related to potential benefits from Australian programming, the third sought an opinion on whether all Australians benefit from such programming and the fourth, respondents' views on whether all Australians should contribute financially to the production of Australian programs. The questions were also intended as further stimulation of respondents to think about the range of benefits that may accrue from Australian programs. The highlighting of both benefits and potential cost was intended to provide some linkage between them in the minds of respondents.

The third and fourth statements were also thought to be of some value in assessing whether respondents were engaging in strategic behaviour. It was expected that not all those with the opinion that all Australians benefit from Australian programs would agree that all should contribute financially to their production. The perception that it is not possible to exclude people from access to the benefits may well influence some to register an unwillingness to pay. Another possibility is that respondents perceiving few if any benefits to themselves may not be willing to contribute to program production even though they acknowledge the existence of benefits to the wider community. While it would not be possible to differentiate the motivation of respondents on that basis, the answers to the question, when combined with answers to other parts of the survey, were nonetheless expected to be useful in making ordinal assessments of strategic bias.

The first of the valuation questions (question 11) asked respondents to indicate whether current expenditure on Australian programs should be increased, decreased or stay the same. The preamble to the question informed respondents of the average per household cost of supplying Australian programming on free-to-air television. In giving their response on what should happen to the expenditure, respondents were asked to consider the perceived benefits accruing to their household, as well as those accruing to the wider community. Respondents indicating that the amount should be either increased or decreased were posed a supplementary question (question 12) asking them to indicate the maximum amount their household would be prepared to pay for Australian television programming. All respondents were then shown a prompt card displaying the approximate distribution of the average per household cost of Australian programming.
(question 13) and were asked whether the distribution should be changed. Those proposing a change in the distribution were asked to indicate which type of programs should receive increased or reduced allocations (questions 14 and 15).

The last group of questions was intended to assess the willingness of respondents to pay for a 10 per cent increase in Australian programs. Respondents were first posed a referendum style dichotomous choice (yes/no) question on whether their household would be prepared to pay an extra $12 per year, in higher prices and taxes, for the increase.

In a supplementary question, those responding yes were asked whether they would be prepared to pay more than $12 for the increase. Those who responded no to the $12 were asked whether they were prepared to pay a smaller annual amount. In a further follow up question, all respondents indicating they were prepared to pay a positive amount were asked to state the maximum amount per year they were prepared to pay for the increase. The sequencing of these questions is illustrated in figure 6.1.

Figure 6.1: Flow Chart of Willingness to Pay for Increase Question

Finally, all respondents were asked to indicate their preferred funding allocations in a non-liability situation if annual spending on Australian programming were to be increased by $10 per household.

A copy of the survey questionnaire is provided in Appendix IV.

11 $10 was chosen to facilitate proportional distribution by respondents
CONCLUSION

This chapter reviews the theory and method of the contingent valuation approach to the measurement of community benefits for non-market commodities and establishes the validity of its application in the context of a quasi-public good such as television programming. It also provides a detailed description of the development and testing of the survey questionnaire.

All aspects of the design and structure of the survey questionnaire and sample size are consistent with and satisfy all the important NOAA (1993) guidelines for reliable contingent valuation surveys. Particular attention was devoted to ensuring the validity of the survey questions and to minimising any anticipated bias. Pilot surveys with substantial sample sizes were used to test the effectiveness of all the questions used in the survey. Overall, the extensive quality assurance measures employed in the planning of the survey and the design of the questionnaire provided confidence that the survey was highly likely to be successful in collecting reliable data.
CHAPTER 7  ANALYSIS OF VALUATION SURVEY

INTRODUCTION*

A key element of this thesis is the measurement of community benefits derived from the consumption of Australian television programming, that is mandated by domestic content regulation of commercial television operators. As discussed in Chapter 6, the valuation of benefits generated by the consumption of a quasi-public good, such as free-to-air television programming, cannot be derived from market data and it is necessary to resort to an indirect measure. The indirect measure developed for this thesis was a national contingent valuation survey that obtained responses from 2,193 households throughout Australia (the survey methodology was discussed in Chapter 6). The purpose of the survey was to collect information on the community’s willingness to pay for the provision of domestic programming. In addition, the survey collected a substantial amount of information on the consumption of Australian programs and other audio-visual commodities, and on community attitudes towards Australian television programming and national culture and identity.

The principal focus of this chapter is the analysis of the data on community benefits from domestic television programs and factors that may influence willingness to pay. Other issues are discussed only in so far as they impinge on the perceived valuation of benefits1. The analysis commences with an examination of respondents’ perception of cultural benefits that may accrue from the consumption of Australian television programs and of the relationship between perceived benefits and demographic characteristics of respondents. Respondents’ demands for various categories of Australian television programs are also examined. This is followed by a detailed examination of respondents’ willingness to pay to retain the current level of Australian content of commercial television programs. Willingness to pay for a 10 per cent increase in Australian content and the categories of programs where increases were thought to be desirable by respondents are also examined in detail. The chapter concludes with an assessment of whether the perceived value of community benefits from Australian television content is commensurate with the cost of the regulation.

GENERAL FINDINGS

Consumption of Audio-visual Products

Almost 98 per cent of people watch at least a small amount of television each day. The average daily consumption is between two and three hours. Some 35 per cent watch less

---

* An earlier version of this chapter and Chapter 6 was published as Papandrea (1996).

1 Some of the more general issues and other relationships arising from the analysis are discussed in Papandrea (1996).
than 2 hours and 36.7 per cent watch more than 3 hours per day. Some 9 per cent of people are heavy viewers (5 hours or more per day). Television appears to be the main vehicle for consumption of audio-visual products. Over half of adult Australians either never go to the movies (33.9 per cent) or go only occasionally (1-2 times a year; 22.3 per cent). Similarly, although 84.2 per cent of households have a video recorder, almost 38 per cent of households did not hire a video, and an additional 19 per cent hired only 1-2 videos, in the month prior to the survey. Details of cinema attendances, video hire and television consumption by respondents to the survey are provided in table 7.1.

Table 7.1: Consumption of Movies, Videos and Television

<table>
<thead>
<tr>
<th>Cinema movies</th>
<th>Videos</th>
<th>Television</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of attendances in last 12 months</td>
<td>Number hired last month</td>
<td>Hours watched per day</td>
</tr>
<tr>
<td>nil/never go</td>
<td>none</td>
<td>less than 1</td>
</tr>
<tr>
<td>1-2 times</td>
<td>1-2</td>
<td>1-2</td>
</tr>
<tr>
<td>3-4 times</td>
<td>3-5</td>
<td>2-3</td>
</tr>
<tr>
<td>5-6 times</td>
<td>6-10</td>
<td>3-4</td>
</tr>
<tr>
<td>7-12 times</td>
<td>10 or more</td>
<td>4-5</td>
</tr>
<tr>
<td>13 or more</td>
<td>don’t know</td>
<td>5 or more</td>
</tr>
<tr>
<td>don’t know</td>
<td>Total</td>
<td>none/don’t know</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Survey

Perception of cultural benefits

Awareness of the cultural benefits likely to accrue as externalities to the production and consumption of Australian films and television programs appears to be widespread. The survey data reveal widely held beliefs that Australian films and television programs confer benefits that are deemed to enhance national culture and identity. For example, 86.6 per cent of respondents were of the view that international success of Australian films and television programs gives people a sense of pride in Australian achievement. Large majorities of respondents were also of the view that Australian films and television programs improve understanding of Australia and its way of life (77.0 per cent) and are more meaningful to viewers (71.4 per cent). Notwithstanding the widespread recognition of cultural benefits, respondents were less willing to agree with the general proposition that Australian films and TV programs are preferable to imported products of the same quality. Only 52.7 per cent of respondents indicated agreement with the proposition. Furthermore, only 35.1 per cent of respondents were prepared to accept the statement that Australian television would be less appealing if fewer Australian programs were shown. A significantly larger proportion (48.6 per cent) disagreed with the proposition. Details are provided in table 7.2.

---

These figures are broadly consistent with ratings data for five major cities indicating average daily viewing of 3 hours and 11 minutes (A. C. Nielsen 1994) and other time use data (ABS 1993).
Table 7.2: Perception of Cultural Benefits

<table>
<thead>
<tr>
<th>Proposition</th>
<th>Agree</th>
<th>Disagree</th>
<th>Neither/Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A. International success of Australian films and TV programs gives people a sense of pride in Australian achievement</td>
<td>86.6</td>
<td>6.0</td>
<td>7.4</td>
</tr>
<tr>
<td>1B. Australian films and TV programs are more meaningful to viewers than imported ones</td>
<td>71.4</td>
<td>19.5</td>
<td>9.1</td>
</tr>
<tr>
<td>1C. Australian films and TV programs improve understanding of our country and way of life</td>
<td>77.0</td>
<td>14.6</td>
<td>8.4</td>
</tr>
<tr>
<td>1D. Australian films and TV programs are preferable to imported ones of same type and quality</td>
<td>52.7</td>
<td>33.7</td>
<td>13.6</td>
</tr>
<tr>
<td>1E. Australian TV would appeal less if fewer Australian programs were shown</td>
<td>35.1</td>
<td>48.6</td>
<td>16.3</td>
</tr>
</tbody>
</table>

Source: Survey

The apparent paradox between the high desirability of Australian programs and their low impact on the appeal of television is likely to be explained by respondents’ perceptions of the relative quality of domestic and imported programs. Only a little more than 40 per cent of those who indicated that Australian films were preferable to imported ones of the same quality agreed with the proposition that fewer domestic programs would reduce the appeal of Australian television. Similarly, a slightly smaller proportion of respondents, who elsewhere in the survey indicated knowing a good quality film was Australian would increase their desire to see it, agreed that appeal of television would be reduced with fewer domestic programs. In essence, these responses imply that a sizeable proportion of individuals regard at least some Australian programs to be of a lower quality than imported programs.

The finding that at least some of the current Australian programming on television is thought to be of lower quality than imported programs was anticipated to some extent. The survey results are consistent with television ratings data showing that the popularity of entertainment programs such as drama serials is generally independent of their national origins. Also, given that a wide range of overseas entertainment programs is available at relatively low cost to television operators it would be expected that only the best of what is available is imported.

The widespread awareness of the cultural benefits identified in the survey is consistent with results of earlier studies of benefits from the arts. Throsby and Withers (1994) tested the proposition that “the success of Australian painters, singers, writers, actors etc., gives people a sense of pride in Australian achievement”. An almost identical proposition was also tested in an earlier survey by Thompson, Throsby and Withers (1983) and in two surveys conducted on behalf of the Australia Council for the Arts.
(Australia Council 1993). A consistently high level of recognition was recorded in each of those surveys. This study, and the Thompson, Throsby and Withers study, also found a high level of support for the proposition that Australian film and TV programs (or the arts) help to understand our country better. Comparisons of responses to this and earlier studies are summarised in table 7.3.

### Table 7.3: Some Comparisons With Other Studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Australia Council (1993) '92 survey</th>
<th>'90 survey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>proportion agreeing (%)</td>
<td></td>
</tr>
<tr>
<td>Pride in Australian achievement</td>
<td>86.6</td>
<td>91</td>
</tr>
<tr>
<td>Help understand our country better</td>
<td>77.0</td>
<td>84.6</td>
</tr>
</tbody>
</table>

**MODELLING OF PREFERENCES**

As indicated above, the main purpose of the survey was to collect information on willingness to pay for Australian television programming and on some of the aspects likely to influence consumer valuation of the programming. Following Michael and Becker (1973) and Stigler and Becker (1977), it is postulated that households maximise a utility function of commodities that they produce with market goods, their own time, their personal characteristics (i.e. their human capital) and other inputs. This may be expressed as follows:

\[
\text{Max } U = U(Z_1, ..., Z_n) \quad \text{subject to: } Z_i = f_i(X_{i1}, ..., X_{ki}, t_{i1}, ..., t_{in}, S_1, ..., S_h, Y_i) \\
T = t_0 + \sum t_i, \text{ and } I = \sum p_jX_j
\]

where \( Z_i \) represent the commodity of choice entering the utility function, \( f_i \) is the production function for the \( i \)th commodity, \( X_{ji} \) is the quantity of \( j \)th market good with price \( p_j \), \( T \) is the household's total available time, \( t_0 \) is the household's time spent on other activities including production of the household's income \( I \), \( t_i \) is the \( j \)th individual's time input devoted to the production of the commodity, \( S_j \) is the \( j \)th individual's human capital (fixed at any given time), and \( Y_i \) represents all the other inputs. The \( Z_i \) have no market prices (they are not bought or sold), but do have shadow prices determined by their cost of production. The utility function is assumed to be separable in \( X_i \).

In this context, domestic (\( X_d \)) and imported (\( X_m \)) television programs may be considered as two market goods that an individual uses to produce a desired commodity. Thus, the amount of time devoted to television viewing \( T_v \), and the quantity of \( X_d \) and \( X_m \), depend on the total amount of available time, the time devoted to other market goods, the
quantity of the other market goods, other inputs and the personal characteristics of the individual conducive to television viewing.

An individual then chooses television programs in such a way as to maximise utility from the available time for viewing. That is:

\[
\text{Max } U = U(X_{d}, X_{m}) \text{ subject to } t_{d} + t_{m} \leq T_{v}
\]

The relationship between the probability of a given response and a range of personal characteristics (covariates) of respondents was investigated with a series of logistic regression models. However, some potential relationships could not be tested because of insufficient effective responses for certain characteristics (e.g. effects of employment status). All the covariates data collected in the survey were categorical rather than continuous in nature and necessitated the use of a large numbers of dichotomous design (dummy) variables for the investigation of relationships. The full model, for example, included 10 design variables for income and 13 for age and made presentation of the results cumbersome. To facilitate the presentation, a reduced model where the income and age levels were collapsed into three income variables and four age variables was used (the independent variables used in the model are defined in table 7.4).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>HINCLOW</td>
<td>household income of $24,000 or less</td>
</tr>
<tr>
<td>HINCMED</td>
<td>household income of $24,001 - $49,000</td>
</tr>
<tr>
<td>HINCHI</td>
<td>household income of more than $49,000</td>
</tr>
<tr>
<td>AGE1829</td>
<td>age of 18-29 years</td>
</tr>
<tr>
<td>AGE3049</td>
<td>age of 30-49 years</td>
</tr>
<tr>
<td>AGE5064</td>
<td>age of 50-64 years</td>
</tr>
<tr>
<td>AGE65+</td>
<td>age of 65 or more years</td>
</tr>
<tr>
<td>EDUCAT1</td>
<td>highest education level achieved: secondary school</td>
</tr>
<tr>
<td>EDUCAT2</td>
<td>highest education level achieved: trade or other certificate</td>
</tr>
<tr>
<td>EDUCAT3</td>
<td>highest education level achieved: university degree or tertiary diploma</td>
</tr>
<tr>
<td>TV1</td>
<td>view television for less than one hour per day</td>
</tr>
<tr>
<td>TV2</td>
<td>view television for 1 - 2 hours per day</td>
</tr>
<tr>
<td>TV3</td>
<td>view television for 2 - 3 hours per day</td>
</tr>
<tr>
<td>TV4</td>
<td>view television for 3 - 4 hours per day</td>
</tr>
<tr>
<td>TV5</td>
<td>view television for 4 - 5 hours per day</td>
</tr>
<tr>
<td>TV6</td>
<td>view television for 5 hours or more per day</td>
</tr>
<tr>
<td>MARITAL1</td>
<td>currently married</td>
</tr>
<tr>
<td>MARITAL2</td>
<td>separated or widowed</td>
</tr>
<tr>
<td>MARITAL3</td>
<td>never married</td>
</tr>
<tr>
<td>GENDER (= 0)</td>
<td>female</td>
</tr>
<tr>
<td>GENDER (= 1)</td>
<td>male</td>
</tr>
<tr>
<td>BIRTHPLACE (= 0)</td>
<td>non-Australian birthplace</td>
</tr>
<tr>
<td>BIRTHPLACE (= 1)</td>
<td>Australian birthplace</td>
</tr>
</tbody>
</table>

The analysis, however, was carried out with both the full and reduced sets of covariates. Also, household income was dropped as a variable in cases where the initial investigation
indicated it had a trivial influence on responses. In part this was done with the aim of increasing the utility of the survey data. The action led to a potentially larger effective sample for the reduced model as 317 of the 2,193 respondents did not provide information on household income.

The likely existence of the relationships was tested with a linear logistic regression model (discussed in detail in Appendix VI) of the form:

\[ \text{logit}(p) = \log\left(\frac{p}{1-p}\right) = \alpha + \beta x + u_i \]

where \( p \) is the probability of the event (agreeing with a proposition) given the set of explanatory values \( x \), \( \alpha \) is the intercept parameter and \( \beta \) is the vector of slope parameters and \( u_i \) is an error term with a logistic cumulative distribution (Maddala 1983).

The first relationship tested was between responses on perception (or awareness) of likely cultural benefits that may arise from Australian television programs and the personal characteristics of the respondents. Awareness of the cultural benefits is a potential indicator of the predisposition of individuals to consume Australian television programs. In the context of the household’s utility maximisation problem outlined above, awareness of cultural benefits may be thought of as an element of the household’s human capital. It may be postulated that, as awareness of the cultural benefits increases, the resultant change in the household’s human capital produces a decrease in the shadow price of domestic programs relative to that of imported programs. Consequently, a utility maximising household would demand more domestic programs and fewer imported programs as its awareness of the related cultural benefits increases.

The independent variables used in the model with reference categories given in brackets were: household income (reference \( \text{HINCLow} \)), age (reference 18-29 years), educational level (reference secondary school), marital status (reference never married), gender (reference female), birthplace (reference non-Australian birthplace) and amount of television viewing (reference less than one hour). The same set of independent variables and reference categories were used in most of the logistic regression models applied in the analysis, with variations noted as appropriate. A separate logistic regression model was applied to each of the five components of Question 1 in the survey. For the purpose of the model, the responses to the components of the question were reduced to dichotomous variable of agreement ('agree' or 'strongly agree'), and non-agreement (all the other possible responses including 'don’t know'), with the proposition.

The results of the regression analysis are presented in table 7.5. The results indicate some interesting significant (five per cent or better of significance) relationships between the responses and the personal characteristics of the respondents. For example, agreement with proposition 1A was significantly and positively related with household incomes above $49,000, with increasing level of education, with moderate (two - three hours) and with heavy television viewing (five hours or more), and with Australian birthplace and negatively related to older age groups (age over 50 years). Agreement with the proposition 1D was positively related with moderate and heavy television
viewing, with being currently or previously married and with Australian birthplace, and negatively related with income of more than $49,000.

Table 7.5: Perception of Cultural Benefits and Demographic Characteristics

<table>
<thead>
<tr>
<th>Intercept</th>
<th>IA</th>
<th>IB</th>
<th>IC</th>
<th>ID</th>
<th>IE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.9336***</td>
<td>-0.1265</td>
<td>0.4873*</td>
<td>-0.9414***</td>
<td>-1.3245***</td>
</tr>
<tr>
<td>HINCMED ($24,001 - $49,000)</td>
<td>0.2462</td>
<td>0.0459</td>
<td>-0.0807</td>
<td>-0.0740</td>
<td>0.0609</td>
</tr>
<tr>
<td>HINCHI ($49,000+)</td>
<td>0.7211***</td>
<td>-0.0277</td>
<td>-0.2156</td>
<td>-0.3607***</td>
<td>-0.1331</td>
</tr>
<tr>
<td>AGE3049 (30-49 years)</td>
<td>-0.1306</td>
<td>-0.0316</td>
<td>0.1396</td>
<td>0.2201</td>
<td>0.0344</td>
</tr>
<tr>
<td>AGE5064 (50-64 years)</td>
<td>-0.5269**</td>
<td>0.1873</td>
<td>0.2243</td>
<td>0.2052</td>
<td>0.00977</td>
</tr>
<tr>
<td>AGE65+ (~65 years)</td>
<td>-0.7199***</td>
<td>-0.1122</td>
<td>-0.1445</td>
<td>0.2598</td>
<td>-0.1959</td>
</tr>
<tr>
<td>EDUCAT2 (trade/other certificate)</td>
<td>0.3503**</td>
<td>0.2092</td>
<td>0.1083</td>
<td>-0.0446</td>
<td>-0.0104</td>
</tr>
<tr>
<td>EDUCAT3 (uni. degree/diploma)</td>
<td>0.4407**</td>
<td>-0.2858**</td>
<td>-0.0275</td>
<td>0.1046</td>
<td>0.1939</td>
</tr>
<tr>
<td>TV2 (1 - 2 hours)</td>
<td>0.3772</td>
<td>0.7032***</td>
<td>0.6122***</td>
<td>0.4248**</td>
<td>0.3068*</td>
</tr>
<tr>
<td>TV3 (2 - 3 hours)</td>
<td>0.5754**</td>
<td>0.6506***</td>
<td>0.7271***</td>
<td>0.3312*</td>
<td>0.3224*</td>
</tr>
<tr>
<td>TV4 (3 - 4 hours)</td>
<td>0.4865*</td>
<td>0.7211***</td>
<td>0.6298***</td>
<td>0.3224*</td>
<td>0.2094</td>
</tr>
<tr>
<td>TV5 (4 - 5 hours)</td>
<td>0.3981</td>
<td>0.4721**</td>
<td>0.7068***</td>
<td>0.3753*</td>
<td>0.00887</td>
</tr>
<tr>
<td>TV6 (5+ hours)</td>
<td>0.9880***</td>
<td>0.8772***</td>
<td>1.1200***</td>
<td>0.4394**</td>
<td>0.4203*</td>
</tr>
<tr>
<td>marital</td>
<td>0.2702</td>
<td>0.5084***</td>
<td>0.4331***</td>
<td>0.5284***</td>
<td>0.2366</td>
</tr>
<tr>
<td>(married)</td>
<td>0.2817</td>
<td>0.2719</td>
<td>0.0578</td>
<td>0.3624**</td>
<td>0.2541</td>
</tr>
<tr>
<td>gender</td>
<td>0.2481</td>
<td>0.1921</td>
<td>0.2057</td>
<td>0.1771</td>
<td>0.1860</td>
</tr>
<tr>
<td>(male)</td>
<td>-0.2270</td>
<td>-0.1214</td>
<td>-0.1264</td>
<td>0.1040</td>
<td>0.2879***</td>
</tr>
<tr>
<td>birthplace</td>
<td>0.3413**</td>
<td>0.2960**</td>
<td>-0.0115</td>
<td>0.4327***</td>
<td>0.1539</td>
</tr>
<tr>
<td>(Australian birthplace)</td>
<td>0.1513</td>
<td>0.1197</td>
<td>0.1334</td>
<td>0.1092</td>
<td>0.1147</td>
</tr>
</tbody>
</table>

Chi-Square (with 16 DF) 68.9 (p=0.0001) 65.1 (p=0.0001) 46.0 (p=0.0001) 60.5 (p=0.0001) 23.6 (p=0.0980)

-2LOG L 1401.07 2107.44 1876.86 2500.04 2366.06

Figure in brackets is the standard error.

DF = degrees of freedom
p = probability
Log L = log likelihood
Level of significance: *** = 1%; ** = 5%; * = 10%.
1A = International success of Australian programs gives sense of pride in Australian achievement.
1B = Australian programs are more meaningful than imported.
1C = Australian programs improve understanding of our country.
1D = Australian programs are preferable to imported of same quality.
1E = Australian TV would appeal less with fewer Australian programs.

Source of Data: Survey

The results may also be used to estimate the probability that an individual with a given set of personal characteristics would agree with a proposition. For example, the
probability that an Australian born, 55 year old, married male respondent with university education who watches between one and two hours of television per day and lives in a medium income ($24,001 - $49,000) household would agree with proposition 1A (table 7.5) may be calculated as follows:

\[
\text{logit}(p_n) = \alpha_n + HINC\text{MED} + \text{AGE50-64} + \text{EDUCAT3} + TV2 + \text{MARITAL1} + \text{GENDER} + \text{BIRTHPLACE} \\
= 0.9336 + 0.2462 - 0.5269 + 0.4407 + 0.3772 + 0.2702 - 0.2270 + 0.3413 \\
= 1.8553
\]

\[
p_n = \frac{e^{1.8553}}{1 + e^{1.8553}} \\
= 0.865
\]

The sensitivity of agreement with the proposition to the age of a person may be gauged by recalculating the above probability for a person with exactly the same characteristics except for age (say between 30 and 49 years). For such a person, the probability of agreement increases to 0.905.

**Opinions on Australian TV Programs**

A large majority of respondents (72.5 per cent) believe that domestic programs are “important for the preservation of the Australian way of life”. Similarly, 62.6 per cent believe “Australian children’s programs are more meaningful to children”. More generally, 62.2 per cent are of the opinion that Australian programs benefit all Australians. However, respondents were equally divided over whether all Australians should contribute financially to the production of Australian programs (44.4 per cent agreed and 44.6 per cent disagreed). Details of the responses are provided in table 7.6.

**Table 7.6: Opinions on Australian Television Programs**

<table>
<thead>
<tr>
<th>Proposition</th>
<th>Agree (per cent)</th>
<th>Disagree (per cent)</th>
<th>Neither/Don’t Know (per cent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10A. Availability of Australian TV programs is important for preservation of Australian way of life</td>
<td>72.5</td>
<td>18.5</td>
<td>9.0</td>
</tr>
<tr>
<td>10B. Australian children’s programs are more meaningful to children than imported children’s programs</td>
<td>62.6</td>
<td>16.9</td>
<td>20.5</td>
</tr>
<tr>
<td>10C. Australian TV programs benefit all Australians</td>
<td>62.2</td>
<td>24.5</td>
<td>13.3</td>
</tr>
<tr>
<td>10D. All Australians should contribute financially to support production of Australian TV programs</td>
<td>44.4</td>
<td>44.6</td>
<td>11.0</td>
</tr>
</tbody>
</table>

Source: Survey
The opinions of respondents on aspects of Australian programs were found to be influenced by a number of demographic characteristics. The logistic regression model described above found a significant (5 per cent or better level of significance) relationship between proposition 10B (table 7.6) and married respondents and with Australian birthplace; between proposition 10C and respondents in the age groups 30-49 years and 50-64 years; and between proposition 10D and respondents aged 30 or more years and with tertiary education (university degree or diploma). No significant relationships (at 5 per cent level of significance) were found with regard to regard to proposition 10A. The results of the analysis are summarised in table 7.7.

Table 7.7: Opinions on Australian Programs and Demographic Characteristics

<table>
<thead>
<tr>
<th>variable</th>
<th>10A</th>
<th>10B</th>
<th>10C</th>
<th>10D</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTERCEPT</td>
<td>0.3035</td>
<td>0.2597</td>
<td>0.1762</td>
<td>-0.3125*</td>
</tr>
<tr>
<td></td>
<td>(0.2019)</td>
<td>(0.1933)</td>
<td>(0.1919)</td>
<td>(0.1883)</td>
</tr>
<tr>
<td>AGE3049 (30-49 years)</td>
<td>0.0390</td>
<td>0.1138</td>
<td>0.2864**</td>
<td>0.3157**</td>
</tr>
<tr>
<td></td>
<td>(0.1463)</td>
<td>(0.1375)</td>
<td>(0.1350)</td>
<td>(0.1348)</td>
</tr>
<tr>
<td>AGE5064 (50-64 years)</td>
<td>0.3184*</td>
<td>-0.0540</td>
<td>0.3688**</td>
<td>0.4245**</td>
</tr>
<tr>
<td></td>
<td>(0.1733)</td>
<td>(0.1566)</td>
<td>(0.1562)</td>
<td>(0.1538)</td>
</tr>
<tr>
<td>AGE65+ (&gt;65 years)</td>
<td>0.1930</td>
<td>-0.1073</td>
<td>0.2684</td>
<td>0.3647**</td>
</tr>
<tr>
<td></td>
<td>(0.1862)</td>
<td>(0.1692)</td>
<td>(0.1688)</td>
<td>(0.1667)</td>
</tr>
<tr>
<td>EDUCAT2 (trade or other certificate)</td>
<td>0.2094*</td>
<td>0.0075</td>
<td>-0.0648</td>
<td>0.1071</td>
</tr>
<tr>
<td></td>
<td>(0.1179)</td>
<td>(0.1063)</td>
<td>(0.1063)</td>
<td>(0.1031)</td>
</tr>
<tr>
<td>EDUCAT3 (uni. degree or diploma)</td>
<td>0.2130</td>
<td>0.0237</td>
<td>-0.1199</td>
<td>0.3306**</td>
</tr>
<tr>
<td></td>
<td>(0.1338)</td>
<td>(0.1230)</td>
<td>(0.1218)</td>
<td>(0.1187)</td>
</tr>
<tr>
<td>TV2 (1 - 2 hours)</td>
<td>0.1866</td>
<td>-0.2309</td>
<td>-0.1331</td>
<td>-0.1516</td>
</tr>
<tr>
<td></td>
<td>(0.1685)</td>
<td>(0.1626)</td>
<td>(0.1608)</td>
<td>(0.1549)</td>
</tr>
<tr>
<td>TV3 (2 - 3 hours)</td>
<td>0.2086</td>
<td>-0.1622</td>
<td>-0.1875</td>
<td>-0.0953</td>
</tr>
<tr>
<td></td>
<td>(0.1685)</td>
<td>(0.1625)</td>
<td>(0.1603)</td>
<td>(0.1544)</td>
</tr>
<tr>
<td>TV4 (3 - 4 hours)</td>
<td>0.2882</td>
<td>-0.2749</td>
<td>-0.0793</td>
<td>-0.1485</td>
</tr>
<tr>
<td></td>
<td>(0.1829)</td>
<td>(0.1726)</td>
<td>(0.1722)</td>
<td>(0.1655)</td>
</tr>
<tr>
<td>TV5 (4 - 5 hours)</td>
<td>0.4003*</td>
<td>-0.2321</td>
<td>-0.2445</td>
<td>0.0606</td>
</tr>
<tr>
<td></td>
<td>(0.2167)</td>
<td>(0.1990)</td>
<td>(0.1971)</td>
<td>(0.1909)</td>
</tr>
<tr>
<td>TV6 (≥5 hours)</td>
<td>0.3146</td>
<td>-0.1830</td>
<td>-0.0377</td>
<td>-0.1322</td>
</tr>
<tr>
<td></td>
<td>(0.2192)</td>
<td>(0.2034)</td>
<td>(0.2042)</td>
<td>(0.1958)</td>
</tr>
<tr>
<td>MARITAL1 (married)</td>
<td>0.2637*</td>
<td>0.2986**</td>
<td>0.2504*</td>
<td>0.0234</td>
</tr>
<tr>
<td></td>
<td>(0.1422)</td>
<td>(0.1333)</td>
<td>(0.1320)</td>
<td>(0.1312)</td>
</tr>
<tr>
<td>MARITAL2 (separated - widowed)</td>
<td>0.2840</td>
<td>0.1810</td>
<td>0.1600</td>
<td>-0.0909</td>
</tr>
<tr>
<td></td>
<td>(0.1782)</td>
<td>(0.1636)</td>
<td>(0.1634)</td>
<td>(0.1611)</td>
</tr>
<tr>
<td>BIRTHPLACE (Australian birthplace)</td>
<td>0.0867</td>
<td>0.2940***</td>
<td>0.1123</td>
<td>-0.1573</td>
</tr>
<tr>
<td></td>
<td>(0.1117)</td>
<td>(0.1016)</td>
<td>(0.1025)</td>
<td>(0.0995)</td>
</tr>
</tbody>
</table>

Chi-Square (with 13 DF) 23.3 (p=0.0387) 21.4 (p=0.0651) 22.19 (p=0.0526) 25.7 (p=0.0186)

-2LOG L 2498.26 2847.64 2849.20 2974.62

Figure in brackets is the standard error
DF = degrees of freedom
p = probability
LOG L = log likelihood
Level of significance: 1% = ***; 5% = **; 10% = *
10A = Availability of Australian TV programs important for preservation of Australian way of life.
10B = Australian children's programs more meaningful to children than imported.
10C = Australian TV programs benefit all Australians.
10D = All Australians should contribute financially to support production of Australian TV programs.

Source of Data: Survey
VALUATION OF BENEFITS

Television programs confer both private and external benefits to their audiences. As both types of benefits arise jointly from a single act of viewing, they are not easily separated for valuation purposes. Consequently, willingness to pay for a program is likely to reflect the value of the total benefits (private and external) derived from viewing.

Assessment of the efficiency of domestic content regulation should take account only of the costs and benefits due solely to the regulation. Although the regulation prescribes minimum levels of Australian programming, at least some of that programming would continue to be supplied in the absence of the regulation. Furthermore, at least some of the private benefits accruing to viewers could be derived from the consumption of imported programs. Consequently, the level and types of programs due entirely to the regulation and the incremental benefits they generate are virtually impossible to determine separately. It is possible, however, to estimate viewers' willingness to pay for Australian programs in general and to use the estimate to assess whether the regulation generates a net community benefit.

To assess whether the community derives a net benefit from Australian content regulation respondents were asked directly whether their perceived benefits from Australian programs are commensurate with the estimated average cost per household to supply the programs. Respondents were first informed of the annual average cost associated with the supply of Australian programs and were then posed a referendum style question as to whether, in the light of the perceived benefits, the amount should be changed. The wording of the question was as follows:

On average each household pays about $120 a year in taxes and increased prices for advertised goods to finance Australian TV programs.

Considering the benefits your household and the community get from Australian programs, do you think this amount should be increased, decreased or stay the same?

The underlying assumption was that in answering the question respondents would take account of both private benefits to themselves and perceived benefits to society. Any significant incongruity between perceived benefits and expenditure would be expected to lead to responses favouring increased or decreased expenditure, as appropriate. Only individuals perceiving a broad equivalence in the benefits and expenditure were expected to indicate that the level of expenditure should not change. The survey findings are summarised in figure 7.1.

3 Details on the derivation of the estimated expenditure per household are provided in Appendix V. The estimate relates to the total cost of supplying Australian programs and is substantially larger than the cost associated with the regulation.

4 Note that the estimated expenditure of $120 used in the questionnaire is somewhat higher than the preliminary estimate of $100 used in the pilot survey described in chapter 6.

5 As discussed in Chapter 6, information/starting point bias was not expected to pose a significant problem.
As indicated in figure 7.1, the survey found widespread acceptance of the estimated level of expenditure on Australian television programs. Only 15 per cent of all respondents wanted a decrease in expenditure. An additional 7.7 per cent was indifferent to or was unable to give a response (don't know/don't care) to the question. The bulk of the responses was made up of 65.2 per cent who wanted the amount of expenditure to stay unchanged and an additional 12 per cent who wanted the amount to increase.

Respondents indicating that current expenditure should be increased or decreased were asked to state the maximum amount their household would be willing to pay each year to retain the current amount of Australian TV programs. The responses ranged from zero to $360. A number of respondents to the supplementary question proffered a don’t know response. A don’t know response from those who had previously stated that expenditure should be increased was interpreted as an unwillingness to commit to paying a specific amount in excess of $120 per annum. Consequently, those individuals were reallocated (conservatively) to the no change in the current level of expenditure category. A slightly more difficult problem arose in relation to those whose don’t know response was preceded by a response favouring a decrease in the current level of expenditure. Since a nil (i.e. zero) response was available to respondents, those individuals were deemed to be indicating a willingness to pay a positive, but unknown, amount (1.8 per cent of all respondents were in this category).
The relationship between the demographic characteristics of respondents and the probability of selecting each of the three options (*increase, decrease, stay the same*) was tested with a logistic regression model similar to that described above. In this case, the dependent or response variable had three different levels. The responses were assigned the ascending order *decrease - stay the same - increase*. Using *decrease* as the reference category, the model was used to assess the influence of the covariates on the likelihood of respondents giving either of the two alternative responses. The model has the form:

\[
\text{logit}(P_{\text{increase}}) = \log\left(\frac{P_{\text{increase}}}{1 - P_{\text{increase}} + P_{\text{same}}}\right) = \alpha_1 + \beta x + u_{i1}, \quad \text{and}
\]

\[
\text{logit}(P_{\text{increase}} + P_{\text{same}}) = \log\left(\frac{P_{\text{increase}} + P_{\text{same}}}{1 - P_{\text{increase}} + P_{\text{same}}}\right) = \alpha_2 + \beta x + u_{i2}
\]

where \(\alpha_i\) is the respective intercept parameter and \(\beta\) is the vector of slope parameters, and \(P_{\text{increase}}\) and \(P_{\text{same}}\) are the probabilities of giving the *increase* and *stay the same* responses respectively. The results of the analysis are summarised in table 7.8.

**Table 7.8: Valuation of Benefits and Demographic Characteristics**

<table>
<thead>
<tr>
<th>variable</th>
<th>model estimates</th>
<th>model estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTERCEPT 1 ((\alpha_1))</td>
<td>-3.0382</td>
<td>(0.2741)</td>
</tr>
<tr>
<td>INTERCEPT 2 ((\alpha_2))</td>
<td>0.7542***</td>
<td>(0.2589)</td>
</tr>
<tr>
<td>HINCME ((\geq24,001 - 49,000))</td>
<td>0.3997***</td>
<td>(0.1463)</td>
</tr>
<tr>
<td>HINCHI ((\geq49,000+))</td>
<td>0.7071***</td>
<td>(0.1582)</td>
</tr>
<tr>
<td>AGE3049((30-49) years)</td>
<td>0.4457***</td>
<td>(0.1620)</td>
</tr>
<tr>
<td>AGE5064((50-64) years)</td>
<td>0.7793***</td>
<td>(0.1889)</td>
</tr>
<tr>
<td>AGE65+((\geq65) years)</td>
<td>0.4823**</td>
<td>(0.2114)</td>
</tr>
<tr>
<td>EDUCAT2 (\text{(trade or other certificate)})</td>
<td>-0.0419</td>
<td>(0.1297)</td>
</tr>
<tr>
<td>EDUCAT3 (\text{(uni. degree or diploma)})</td>
<td>0.4057***</td>
<td>(0.1494)</td>
</tr>
<tr>
<td>TV2((1 - 2) hours)</td>
<td>0.2508</td>
<td>(0.1982)</td>
</tr>
<tr>
<td>TV3((2 - 3) hours)</td>
<td>0.2076</td>
<td>(0.1980)</td>
</tr>
<tr>
<td>TV4((3 - 4) hours)</td>
<td>0.0773</td>
<td>(0.2106)</td>
</tr>
<tr>
<td>TV5((4 - 5) hours)</td>
<td>0.1018</td>
<td>(0.2403)</td>
</tr>
<tr>
<td>TV6((\geq5) hours)</td>
<td>-0.0681</td>
<td>(0.2484)</td>
</tr>
<tr>
<td>MARITAL1 (\text{(married)})</td>
<td>0.0543</td>
<td>(0.1630)</td>
</tr>
<tr>
<td>MARITAL2 (\text{(separated - widowed)})</td>
<td>0.2342</td>
<td>(0.2019)</td>
</tr>
<tr>
<td>GENDER (\text{(male)})</td>
<td>-0.1983*</td>
<td>(0.1114)</td>
</tr>
<tr>
<td>BIRTHPLACE (\text{(Australian birthplace)})</td>
<td>0.1354</td>
<td>(0.1240)</td>
</tr>
<tr>
<td>Chi-Square (with 16 DF)</td>
<td>68.7</td>
<td>(p=0.0001)</td>
</tr>
<tr>
<td>-2LOG L</td>
<td>2621.70</td>
<td></td>
</tr>
</tbody>
</table>

Figure in brackets is the standard error.

DF = degrees of freedom.

\(\rho\) = probability.

Level of significance: 1% = ***; 5% = **; 10% = *.

Source of Data: Survey

---

Note that the probability the response *decrease* is given by \(P_{\text{decrease}} = (1 - P_{\text{increase}} - P_{\text{same}})\).
As expected, the responses are significantly (one per cent level of significance) associated with household income. There is also a significant association with the age and gender of the respondents. For example, the respective probabilities of the three responses being given by a 55 year old, Australian born, married male respondent with university education and household income of $39,001 – $49,000 and who watches television between one and two hours per day may be calculated as follows:

\[
\logit(p_{\text{increase}}) = \alpha_1 + (\text{HINCHI} + \text{AGE5064} + \text{EDUCAT3} + \text{TV2} + \text{MARITAL1} + \text{GENDER} + \text{BIRTHPLACE})
\]

\[
= -3.0382 + (0.7071 + 0.7793 + 0.2508 + 0.0543 - 0.1983 + 0.1354)
\]

\[
= -3.0382 + 1.7286
\]

\[
= -1.3096
\]

\[
p_{\text{increase}} = \frac{e^{-1.3096}}{1 + e^{-1.3096}}
\]

\[
= 0.213
\]

\[
\logit(p_{\text{increase}} + p_{\text{same}}) = \alpha_2 + (\text{HINCHI} + \text{AGE5064} + \text{EDUCAT3} + \text{TV2} + \text{MARITAL1} + \text{GENDER} + \text{BIRTHPLACE})
\]

\[
= 0.7542 + 1.7286
\]

\[
= 2.4828
\]

\[
(p_{\text{increase}} + p_{\text{same}}) = \frac{e^{2.4828}}{1 + e^{2.4828}}
\]

\[
= 0.923
\]

i.e. \( p_{\text{same}} = 0.923 - 0.213 = 0.710 \)

\[
p_{\text{decrease}} = 1 - (p_{\text{increase}} + p_{\text{same}})
\]

\[
= 1 - 0.923 = 0.077
\]

**ESTIMATED VALUE OF AUSTRALIAN CONTENT**

Contingent valuation studies using a referendum format typically take the median response as the estimate of value. In non-referendum formats, the estimate of value is usually the mean of the response distribution. As this study is essentially a hybrid of a referendum format and an open ended valuation, both values have been calculated. The median and mean values recorded in the survey were $120 and $111.20 respectively.

Given the large proportion of people stating that the current level of expenditure should stay the same (69.3 per cent overall or 76.6 per cent if don’t know responses are removed), the median amount of $120 per household per annum is clearly stable. Even

---

7 Replacement of HINCHI by HINCMED changes the probabilities to: \( p_{\text{increase}} = 0.166; \)

\( p_{\text{same}} = 0.732; \) and \( p_{\text{decrease}} = 0.102. \)
for a much wider distribution of values, the nature of the median measure means that it is not subject to substantial influence by the presence of a few extreme values. The mean, on the other hand, is sensitive to extreme values and care needs to be exercised to limit the influence of outliers and invalid responses as much as possible.

While careful planning and pre-testing of the survey instrument will minimise the occurrence of invalid responses, it is virtually impossible to avoid them altogether in any survey. Contingent valuation surveys may attract invalid responses for a variety of reasons, including rejection of the commodity being valued, rejection of the facts or other aspects of the survey such as the payment vehicle, and registration of a protest to the proposed payment by stating a zero value or a value much larger than the true willingness to pay (Mitchell and Carson 1989). Because of their undue influence on mean values, it is particularly important to identify ‘protest zero’ responses and implausibly high values.

Although it may be impossible to eliminate invalid responses totally, good practice dictates the adoption of appropriate procedures to remove or ‘correct’ invalid responses. The corrective action should be undertaken only when it is unambiguously supported by the available information and any adjustment should be documented clearly.

Three mechanisms were used in this study to process invalid responses. The first was used to resolve inconsistencies in respondents replies to two or more related questions. Only when the available data could be used to unambiguously resolve the inconsistency were responses reallocated to the appropriate classification. In all other cases, inconsistent responses were noted as missing values. All reclassifications have been noted in their appropriate context in the description of the survey analysis and results (the reclassifications noted above when reporting responses to the question on maximum willingness to pay for Australian programming are an example).

The other two mechanisms were used to deal with protest zeros and implausibly high values. Three commonly used procedures to deal with these problem values are rejection of protest zeros, rejection of values that exceed a given level of income, and calculation of the ‘α-trimmed’ mean after removing a specified percentage of responses from both ends of the valuation distribution (Mitchell and Carson 1989, Desvousges et al 1992). For comparative purposes all three approaches were used to calculate the mean.

Before a response was rejected as a protest zero it had to satisfy four conditions based on responses to other questions in the survey. These were, agreement with the proposition that all Australians benefit from Australian TV programs, strong disagreement to the proposition that all Australians should contribute financially to their production, viewing television for an average of one or more hours per day, and household income of more than $24,000 per annum. On that basis, 17 of the 146 zero values reported in the survey were excluded from the analysis. Implausibly high values were defined arbitrarily as amounts in excess of 2.5 per cent of household income. There were only two observations in that category. Exclusion of protest zeros and implausibly high values lead to an increase in the mean valuation of the current level of Australian programming from $111.20 to $112.01.
Calculation of $\alpha$-trimmed mean values involves the removal of a specified proportion of observations ($0 \leq \alpha \leq 0.5$) from both the upper and lower tail of the valuation distribution not including protest zeros and calculating the mean of the remaining observations. For a robust estimator of the mean, $\alpha$-levels between 0.05 (i.e. five per cent) to 0.25 are recommended\(^8\) (Mitchell and Carson 1989). Using a five per cent $\alpha$-level yields a trimmed mean value of $\$115.34$ ($\$114.24$ if protest zeros are not removed prior to the trim).

Methods using *ad hoc* or other criteria to identify and remove observations from a distribution should be used with extreme care. The resulting estimates can be very sensitive to the method used. The application of an $\alpha$-trim to an asymmetric distribution, for example, can unduly distort the estimates. Also, outliers are not necessarily restricted to the tails of a distribution (e.g. assessment of ‘implausible’ responses relative to income). Indeed, the increase in the mean value after trimming reported above is largely due to the asymmetry of the distribution of responses to the survey.

Considering these problems, the $\alpha$-trimmed estimates were rejected as unrealistic. On the other hand, removal of the few identified protest zeros and implausibly high values did not lead to a substantial change in the estimate of the mean value. Thus it would appear that the mean value estimated from the survey results is fairly robust. Consequently, either the unadjusted mean value or that resulting after the removal of protest zero and implausibly high values could be used as a plausible estimate of the mean valuation. In any event, given the order of accuracy inherent in survey estimates, the estimate should be thought of only as an indicator of the order of magnitude of the community’s valuation of Australian television programs. Although a high level of significance or precision should not be ascribed to it, the estimate does highlight that the community’s mean or average valuation of domestic programming is somewhat lower than its current estimated level of average cost per household.

**DEMAND FOR INCREASES IN AUSTRALIAN PROGRAMS**

The marginal value that individuals place on increases in the programming was an important element of the valuation of benefits from Australian programming. In the survey, respondents were asked to indicate whether their households were willing to pay an extra $\$12$ per year for a 10 per cent increase in Australian programming. A referendum style dichotomous choice question was used for the purpose (respondents were also allowed to give a *nil* and *don’t know* responses). Further information on maximum willingness to pay was collected with subsidiary questions. All respondents, except those giving *nil* and *don’t know* answers, were asked whether they were prepared to pay a larger or a smaller amount depending on their answer to the initial question.

\(^8\) It should be noted that because both tails are trimmed the total number of observations removed is equal to twice the specified trim level. For example a 5 per cent trim removes 10 per cent of all observations from the distribution.
Those responding positively to this question were then asked to indicate the maximum amount they were willing to pay. The responses to the initial and subsidiary questions are illustrated in figure 7.2.

**Figure 7.2: Willingness to Pay for a 10 per cent Increase in Australian Programs**

- **WILLING TO PAY $12**
  - YES 48.0%
  - NO 40.2%
  - DON’T KNOW 11.9%
- **WILLING TO PAY $12 OR MORE**
  - MORE THAN $12 17.7%
  - $12 30.3%
- **WILLING TO PAY SOMETHING**
  - LESS THAN $12 7.1%
  - WILLING TO PAY NOTHING (OR < $1) (32.9%)
  - WILLING TO PAY SOMETHING 55%
    - More Than $50 3.7%
    - $21 TO $50 7.6%
    - $13 TO $20 6.4%
    - $12 30.3%
    - $6 TO $11 4.6%
    - $1 TO $5 2.4%

Note: Minor discrepancies due to rounding.

Source: Survey

As shown in figure 7.2, the proposed payment of an extra $12 per year for the suggested 10 per cent increase in Australian programming was acceptable to 48 per cent of respondents. A further 7.1 per cent indicated that they would be prepared to pay an unspecified amount less than $12 per year. Thus a total of 55 per cent of respondents indicated a positive valuation for the proposed increase. The remainder was made up of the 32.9 per cent who were prepared to pay nothing (or an amount less than one dollar) and 11.9 per cent who gave a don’t know response. The median value of willingness to pay for a 10 per cent increase in Australian programs (excluding don’t know responses) was $12 per household. The unadjusted mean amount was slightly higher at $12.40.

As indicated in relation to the earlier valuation question, the mean amount is sensitive to extreme values. In this case, however, protest zero responses (other than those of individuals identified as such in response to the earlier valuation question) are virtually impossible to distinguish from true zero responses. However, the amounts indicated in response to the valuation of the current level of Australian television provide additional information for the identification of implausibly high values. The usual expectation of a
declining marginal value for increased quantity of a product may be used to help determine implausibly high values. Comparisons of the amounts people stated they were willing to pay for the current level of Australian content with their stated amounts for a 10 per cent increase reveal that some respondents have indicated a disproportionately high amount for the proposed increase. Indeed, in four cases the amount stated for the increase was larger than the amount those individuals indicated they were prepared to pay for the total current level of Australian programming. The income constraint test adopted above could also be used to screen out implausibly high value.

Two criteria were used to define implausibly high values. The first criterion defined a response as an implausibly high value if the amount given was equal to or greater than a given proportion of the respondent’s stated total valuation of the current level of Australian programming (Ve). Additionally, a response was also identified as a high value if, when added to Ve, the resultant sum was greater than 2.5 per cent of the individual’s household income.

To calculate the adjusted mean value, both protest zeros and implausibly high values were removed from the valuation distribution. The total number of observations removed was dependent on the proportion of Ve chosen as the arbitrary exclusion filter. The exclusion of responses was carried out at four different levels of Ve, namely 100, 75, 50 and 25 per cent. The resultant number of excluded responses was 21, 37, 71 and 171, respectively. Details of the effects of the exclusions on the mean value are provided in table 7.9. For comparative purposes, the table also gives details of the $\alpha$-trimmed mean values after a five and 10 per cent trim of the tails of the distribution.

Table 7.9: Effect of Removing Inconsistent Responses on Mean Value for Increased Australian Programming

<table>
<thead>
<tr>
<th>Exclusion level</th>
<th>Number of Useful Responses</th>
<th>Number of Responses Removed</th>
<th>Minimum Value</th>
<th>Maximum Value</th>
<th>Mean Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>1965</td>
<td>0</td>
<td>0</td>
<td>400</td>
<td>$12.40</td>
</tr>
<tr>
<td>Protest zeros &amp; values &gt; Ve</td>
<td>(a)</td>
<td>1929</td>
<td>21</td>
<td>0</td>
<td>180</td>
</tr>
<tr>
<td>Protest zeros &amp; values &gt;0.75Ve</td>
<td>(a)</td>
<td>1913</td>
<td>37</td>
<td>0</td>
<td>180</td>
</tr>
<tr>
<td>Protest zeros &amp; values &gt;0.50Ve</td>
<td>(a)</td>
<td>1879</td>
<td>71</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Protest zeros &amp; values &gt;0.25Ve</td>
<td>(a)</td>
<td>1779</td>
<td>171</td>
<td>0</td>
<td>80</td>
</tr>
<tr>
<td>Protest zero &amp; $\alpha$-trim ($\alpha = 0.05$)</td>
<td>1756</td>
<td>209</td>
<td>0</td>
<td>50</td>
<td>$9.13</td>
</tr>
<tr>
<td>Protest zero &amp; $\alpha$-trim ($\alpha = 0.10$)</td>
<td>1560</td>
<td>405</td>
<td>0</td>
<td>30</td>
<td>$8.06</td>
</tr>
</tbody>
</table>

Ve = Individual's total valuation of current level of Australian TV content.
(a) = Also excludes values where (Ve + value) > 2.5 per cent of household income.

Source: Survey
The details presented in table 7.9 highlight the impact that influential values have on the estimated mean. Both of the methods used to exclude particular values from the calculation of the mean are based on arbitrary criteria. Their impact on the estimated mean value is different and is obviously affected by the chosen criterion. For example, exclusions based on a proportion of household income do not affect zero values and inherently tend to impact more on larger values. Thus the average impact of each observation removed by this method is substantially greater than the average impact of the observation removed by the $\alpha$-trimmed method which excludes both high and zero values. However, as noted above, because of the non-symmetric distribution of the responses, application of the $\alpha$-trimmed mean process may not be efficient.

For the purpose of this study, the level of accuracy of the estimated mean is not a crucial factor in the analysis. The aim of this part of the study was to gauge whether the level of demand for domestic programming exceeds the current level of supply. The fact that 55 per cent of respondents expressed a willingness to pay a positive amount for the supply of extra Australian programming is the primary indicator of the existence of additional demand. Also the fact that 48 per cent of respondents indicated that they would be willing to pay at least $12 for a 10 per cent increase in programming gives a clear indication that the lower bound of the mean valuation for the survey sample is approximately $6. A conservative interpretation of the estimates in table 7.9 suggests that the mean value is likely to be approximately $8. On this basis it would not be unreasonable to conclude that the community's minimum valuation of additional units of domestic programming is likely to be in the range from $6 to $8 (i.e. from a half to two thirds of the current average supply cost per unit of programming).

The relationship between preparedness to pay for a 10 per cent increase in Australian programs and demographic characteristics of respondents was tested with a sequential logistic regression model. For the first step of the model respondents were grouped into two groups, namely, those prepared to pay a positive amount (paysome) for the proposed increase in Australian programs and those not prepared to pay. The effect of demographic characteristics on the probability of respondents being in the paysome group rather than in the non-payment group (the reference group) was then calculated using the logistic regression model. In the second step of the model, the paysome group was separated into two sub-groups composed of those prepared to pay at least $12 (pay12) for the increase and those prepared to pay a smaller amount. The logistic regression model was then used to estimate the effect of demographic characteristics on the probability of a respondent being prepared to pay at least $12. In the final step, those prepared to pay more than $12 (paymore) were separated from the pay12 and the model was used to estimate the paymore probability. The estimates from each of the steps in the model can then be used to assess the effect of demographic characteristics on the probability of being in any of the sub-groups relative to the probability of not being willing to pay for the proposed increase.

The probability of willingness to pay a positive amount for the proposed increase in Australian programs was significantly associated with the household income and the educational level of respondents. For both of the covariates, the higher the level of the covariate the higher the probability of being willing to pay. Australian born respondents
were more likely than others to be willing to pay a positive amount. The level of television consumption was also associated significantly with willingness to pay. The highest influence on willingness to pay was associated with television viewing of 5 hours or more per day. Within the group willing to pay a positive amount, willingness to pay $12 or more was significantly associated with people aged between 50 and 64 years. A weaker association (10 per cent level of significance) was also found with ages between 30 and 49 years and household incomes of more than $49,000. Finally, within the latter group, willingness to pay more than $12 was associated significantly with university education and weakly associated with formerly married people and household incomes of more than $49,000. The results of the analysis are summarised in table 7.10.

Table 7.10: Demographic Characteristics & WTP for Increased Australian Content

<table>
<thead>
<tr>
<th>variable</th>
<th>model estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>paysome</td>
</tr>
<tr>
<td>INTERCEPT</td>
<td>-0.7545***</td>
</tr>
<tr>
<td></td>
<td>(0.2336)</td>
</tr>
<tr>
<td>HINCMED ($24,001 - $49,000)</td>
<td>0.3863***</td>
</tr>
<tr>
<td></td>
<td>(0.1323)</td>
</tr>
<tr>
<td>HINCHI ($49,000+)</td>
<td>0.5139***</td>
</tr>
<tr>
<td></td>
<td>(0.1429)</td>
</tr>
<tr>
<td>AGE3049 (30-49 years)</td>
<td>0.0942</td>
</tr>
<tr>
<td></td>
<td>(0.1490)</td>
</tr>
<tr>
<td>AGE5064 (50-64 years)</td>
<td>0.2041</td>
</tr>
<tr>
<td></td>
<td>(0.1738)</td>
</tr>
<tr>
<td>AGE65+ (≥65 years)</td>
<td>-0.2149</td>
</tr>
<tr>
<td></td>
<td>(0.1891)</td>
</tr>
<tr>
<td>EDUCAT2 (trade or other certificate)</td>
<td>0.4627***</td>
</tr>
<tr>
<td></td>
<td>(0.1193)</td>
</tr>
<tr>
<td>EDUCAT3 (uni. degree or diploma)</td>
<td>0.6566***</td>
</tr>
<tr>
<td></td>
<td>(0.1418)</td>
</tr>
<tr>
<td>TV2 (1 - 2 hours)</td>
<td>0.5794***</td>
</tr>
<tr>
<td></td>
<td>(0.1774)</td>
</tr>
<tr>
<td>TV3 (2 - 3 hours)</td>
<td>0.5656***</td>
</tr>
<tr>
<td></td>
<td>(0.1760)</td>
</tr>
<tr>
<td>TV4 (3 - 4 hours)</td>
<td>0.4299**</td>
</tr>
<tr>
<td></td>
<td>(0.1874)</td>
</tr>
<tr>
<td>TV5 (4 - 5 hours)</td>
<td>0.3709*</td>
</tr>
<tr>
<td></td>
<td>(0.2126)</td>
</tr>
<tr>
<td>TV6 (≥5 hours)</td>
<td>0.6987***</td>
</tr>
<tr>
<td></td>
<td>(0.2211)</td>
</tr>
<tr>
<td>MARITAL1 (married)</td>
<td>-0.0221</td>
</tr>
<tr>
<td></td>
<td>(0.1495)</td>
</tr>
<tr>
<td>MARITAL2 (separated - widowed)</td>
<td>0.0422</td>
</tr>
<tr>
<td></td>
<td>(0.1821)</td>
</tr>
<tr>
<td>GENDER (male)</td>
<td>-0.0902</td>
</tr>
<tr>
<td></td>
<td>(0.1026)</td>
</tr>
<tr>
<td>BIRTHPLACE (Australian birthplace)</td>
<td>0.2866***</td>
</tr>
<tr>
<td></td>
<td>(0.1116)</td>
</tr>
</tbody>
</table>

Chi-Square (with 16 DF) | 97.5 (p=0.0001) | 27.4 (p=0.0371) | 46.9 (p=0.0001) |

Figure in brackets is the standard error.
DF = degrees of freedom.
\( p \) = probability.
Level of significance: 1% = ***; 5% = **; 10% = *.

Source of Data: Survey
STRATEGIC BIAS

Comparisons of opinions on universal benefits from, and universal payment for, Australian programs (last two statements in table 7.5 (above)) suggest the possibility that some of the respondents may have engaged in strategic behaviour when answering the related questions. However, other factors may also have been at play. In addition to strategic bias, some of the differences in the propensity to acknowledge a benefit and disagree with universal financial support for the production of programs may be due to a number of reasons including: belief that own or overall benefits may be marginal; low level of consumption of television; indifference between Australian and imported programs; and unwillingness to agree to an undefined contribution.

Inconsistency in the response to the two propositions on universal benefits and universal payment for the benefits is only an indicator of potential bias rather than conclusive evidence of strategic bias. Further analysis indicates that only a small proportion of respondents is likely to have acted strategically in their response. It would be reasonable to expect that respondents who gave strategic answers to these questions would respond consistently to other questions in the survey. In particular, such respondents would be likely to indicate that the current expenditure on Australian programs, which imposes an indirect cost on their household, should be decreased, rather than retained at its current level, or increased. However, some of them may justifiably answer that the amount paid by their household should decrease, either because they consume little or no television, or simply because they have a relatively low household income. For those who regularly view television, consumption of Australian programs also becomes a relevant consideration. Taking account of all these factors, a series of sequential filters were applied to potentially biased responses to screen those whose inconsistent answers may have been justified by any of the screening factors. For example, the responses from individuals with a household income of less than $24,000 and from those reporting a television consumption of less than one hour per day, were removed from the originally identified potentially biased group by the filtering process. Further screening then excluded individuals who were unlikely to be regular viewers of Australian programs. The filtering process ended with 46 individuals who are likely to have engaged in strategic behaviour. This is equivalent to 8 per cent of those with inconsistent answers to the propositions on universal benefits and universal financial contributions. Details of the exclusions at each step of the filtering process are provided in figure 7.3.

Survey data on viewing preferences were used to identify regular viewers of Australian programs. Respondents nominating any program category likely to include a substantial proportion of domestic programming were deemed to be regular viewers of Australian programs.
It is necessary to exercise some care in the handling of responses that are likely to be biased. There is a risk that the inclusion of even a few extreme responses could have an undue effect on the calculation of mean values. Any such impact would be likely to impinge most on the survey questions asking respondents to state their valuation of Australian programming. The likely magnitude of such an influence may be gauged from an examination of the answers to the valuation questions that were proffered by potentially biased respondents. The distribution of potentially biased responses to the main valuation questions in the survey is illustrated in figure 7.4 (below).

The distribution indicates that the magnitude of any impact from the inclusion of such potentially biased responses in the analysis of the survey results is unlikely to be large. The largest potential distortion of the mean values would be due to the inclusion of the 18 responses indicating a willingness to pay nothing for the current, or an increased level of Australian content. In either case, given the relatively large sample used in the survey, the inclusion of those responses in the analysis is likely to lead to a very small reduction to the estimated mean values. Furthermore, given the order of accuracy inherent in survey estimates, such an impact is likely to be insignificant. In any event, as will be discussed below, the survey analysis includes separate provisions to deal with ‘protest zero’ responses, some of which, at least, are likely to coincide with the potentially biased responses identified above.
DISTRIBUTION OF EXPENDITURE ON AUSTRALIAN PROGRAMMING

Less than one third (31.2 per cent) of the large majority of respondents who supported at least the current amount of expenditure on Australian television programming wanted to retain the current distribution of expenditure among the various program categories. Of those indicating that the expenditure should be increased, only 14.6 per cent were happy with the current allocation. Overall, a change in the distribution of expenditure was supported by 65.6 per cent of respondents.

The probability of wanting to change the distribution of the current expenditure on Australian programming was significantly associated with increasing income and educational level, and medium to low levels of television viewing. People aged between 30 and 49 years were more likely than others to want a change in the distribution while those aged 65 years or more were less likely than others to do so. Males were less likely than females to want a change in the distribution. The results are summarised in table 7.11.
Table 7.11: Expenditure Redistribution and Demographic Characteristics

<table>
<thead>
<tr>
<th>variable</th>
<th>model estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTERCEPT</td>
<td>-0.3956 (0.2461)</td>
</tr>
<tr>
<td>HINCMED ($24,001 - $49,000)</td>
<td>0.2804** (0.1397)</td>
</tr>
<tr>
<td>HINCHI ($49,000+)</td>
<td>0.4658*** (0.1537)</td>
</tr>
<tr>
<td>AG3049 (30-49 years)</td>
<td>0.6630*** (0.1583)</td>
</tr>
<tr>
<td>AGE5064 (50-64 years)</td>
<td>0.2118 (0.1790)</td>
</tr>
<tr>
<td>AGE65+ (&gt;65 years)</td>
<td>-0.4470** (0.1936)</td>
</tr>
<tr>
<td>EDUCAT2 (trade or other certificate)</td>
<td>0.4571*** (0.1265)</td>
</tr>
<tr>
<td>EDUCAT3 (uni. degree or diploma)</td>
<td>0.9463*** (0.1633)</td>
</tr>
<tr>
<td>TV2 (1 - 2 hours)</td>
<td>0.3906** (0.1948)</td>
</tr>
<tr>
<td>TV3 (2 - 3 hours)</td>
<td>0.4056** (0.1921)</td>
</tr>
<tr>
<td>TV4 (3 - 4 hours)</td>
<td>0.2675 (0.2024)</td>
</tr>
<tr>
<td>TV5 (4 - 5 hours)</td>
<td>0.2175 (0.2266)</td>
</tr>
<tr>
<td>TV6 (&gt;5 hours)</td>
<td>0.2813 (0.2319)</td>
</tr>
<tr>
<td>MARITAL1 (married)</td>
<td>0.1311 (0.1580)</td>
</tr>
<tr>
<td>MARITAL2 (separated - widowed)</td>
<td>0.1722 (0.1923)</td>
</tr>
<tr>
<td>GENDER (male)</td>
<td>-0.2805** (0.1101)</td>
</tr>
<tr>
<td>BIRTHPLACE (Austrian birthplace)</td>
<td>0.1843 (0.1199)</td>
</tr>
</tbody>
</table>

Chi-Square (with 16 DF) 186.1 (p=0.0001)
-2LOG L 2140.81

Figure in brackets is the standard error.
DF = degrees of freedom
p = probability
Level of significance: 1% = ***; 5% = **; 10% = *.

Source of Data: Survey

Details of the desired changes to the current level of programming and to the current expenditure by program category are presented in table 7.12.

Table 7.12: Support for Changes to Level and Expenditure by Program Category

<table>
<thead>
<tr>
<th>Program Category</th>
<th>Regularly Watched</th>
<th>Increase Quantity</th>
<th>Decrease Quantity</th>
<th>Increase Expenditure</th>
<th>Decrease Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>News, current affairs</td>
<td>79.4</td>
<td>24.6</td>
<td>7.0</td>
<td>4.4</td>
<td>16.3</td>
</tr>
<tr>
<td>Documentaries</td>
<td>40.5</td>
<td>50.6</td>
<td>2.8</td>
<td>41.9</td>
<td>0.7</td>
</tr>
<tr>
<td>Sports</td>
<td>38.2</td>
<td>20.4</td>
<td>24.6</td>
<td>4.2</td>
<td>29.4</td>
</tr>
<tr>
<td>Movies</td>
<td>45.6</td>
<td>31.7</td>
<td>1.5</td>
<td>(a)</td>
<td>(a)</td>
</tr>
<tr>
<td>Series/serials</td>
<td>22.6</td>
<td>11.7</td>
<td>24.9</td>
<td>8.1</td>
<td>19.4</td>
</tr>
<tr>
<td>Light entertainment</td>
<td>19.4</td>
<td>21.8</td>
<td>8.3</td>
<td>6.6</td>
<td>17.4</td>
</tr>
<tr>
<td>Game/panel shows</td>
<td>16.1</td>
<td>5.7</td>
<td>29.2</td>
<td>(a)</td>
<td>(a)</td>
</tr>
<tr>
<td>Children's programs</td>
<td>8.4</td>
<td>16.9</td>
<td>2.0</td>
<td>36.1</td>
<td>0.5</td>
</tr>
<tr>
<td>Other</td>
<td>1.3</td>
<td>1.5</td>
<td>1.1</td>
<td>13.2</td>
<td>1.6</td>
</tr>
<tr>
<td>None of the above</td>
<td>1.9</td>
<td>7.8</td>
<td>26.4</td>
<td>0.8</td>
<td>4.8</td>
</tr>
</tbody>
</table>

(a) = unavailability of expenditure data prevented testing of these program categories.

Source: Survey
As indicated in table 7.12, the categories of programs most often nominated for a higher allocation of expenditure were documentaries (41.9 per cent of respondents) and children’s programs (36.1 per cent). The categories nominated for reduced expenditure were: sport (29.4 per cent); drama (series/serials) (19.4 per cent); light entertainment (17.4 per cent); and news and current affairs (16.3 per cent). The table also provides details of programs regularly watched by respondents and of the program categories where larger quantities of Australian programs were desired.

It is interesting to note the differences in the results in terms of desired variations of quantity and expenditure. When expressing a preference for increased or decreased amounts of Australian programming in the listed categories of programs, respondents did not face any implied direct or indirect liability for the nominated changes. To some extent the responses reflected existing viewing habits. The expressions of expenditure variations, on the other hand, implied an indirect liability to respondents. As respondents were asked to reallocate the current funding devoted to the various categories of programs, there was a clear implication that an increase in one category could only occur at the expense of a compensating decrease in another category.

There may be some suspicion that questions seeking opinions on what types of programs people would like to see more (or less) of are prone to bias. If, for example, respondents perceive that certain types of programs are thought to be socially desirable, they may have a tendency to nominate such programs in their answers so as not to ‘lose face’ with the interviewer. Opinions on documentaries are sometimes thought to be prone to such (interviewer) bias. The available evidence, however, does not support the existence of substantial bias in this regard. A discussion paper prepared for the ABT inquiry into Australian content on commercial television (ABT 1991a) examined the audience ratings performance of all Australian documentaries shown during prime time in the period 1980-86. It found that they generally performed well in competition with other types of programs. Indeed, on some occasions documentaries were found to have outperformed top rating programs such as 60 Minutes (vol. 2, pp. 13-43). Similarly, a later study found that documentaries shown in 1991, in most cases, had achieved better ratings than Australian drama programs (ABT 1992c, pp. 17-19).

Demand for increased Australian programming appears to be concentrated in a small number of program categories. In particular, when asked how they would distribute additional expenditure among the various categories, respondents allocated half of the total additional expenditure almost equally to two program categories, documentaries and children’s programs. A third category, news and current affairs, was allocated almost 15 per cent of the additional expenditure. The remainder was allocated almost equally among the other categories of programs. Details of the additional expenditure distribution are provided in figure 7.5.

10 The program categories in the questions related to table 6 had to be narrowed because of the unavailability of separate expenditure data on Australian movies (included in drama) and games and panel shows (included in light entertainment).
The distribution of the additional expenditure in favour of documentaries and children’s programs underscores the unmet demand for such programs that was identified in the responses to other questions discussed above. As might be expected, the demand for additional expenditure on news and current affairs programming comes from people who regularly watch such programs. Given the high popularity of such programs (regularly watched by 79.4 per cent of people) it is not surprising that they scored highly in the expressed preferences for the allocation of additional program expenditure.

Most respondents restricted the allocation of the extra spending to a small number of program categories. Only increases in documentaries and children’s programs received a positive endorsement from more than half of respondents. The results are shown in table 7.13. The allocation made by respondents is likely to reflect their relative intensity of demand for the various program categories. The average allocation by households stating a positive value for a particular program category is also shown in table 7.13. Although a higher proportion of households would allocate some additional expenditure
to documentaries than to children’s programs, on average those favouring the latter category did so with a higher intensity of demand. Both of these program categories, and to a lesser extent news and current affairs, were found to have a substantially higher average intensity of demand than other program categories. Of particular interest in these results is the relatively low intensity of demand for drama programs that are the subject of special quotas.

Table 7.13: Intensity of Demand for Increased Expenditure by Program Category

<table>
<thead>
<tr>
<th>Program Category</th>
<th>Proportion of Households Stating a Positive Value (per cent)</th>
<th>Average Value by Households Stating a Positive Value (dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>News &amp; current affairs</td>
<td>36.8</td>
<td>3.54</td>
</tr>
<tr>
<td>Sport</td>
<td>29.4</td>
<td>2.96</td>
</tr>
<tr>
<td>Drama (series/serials)</td>
<td>31.0</td>
<td>2.71</td>
</tr>
<tr>
<td>Light entertainment</td>
<td>28.0</td>
<td>2.39</td>
</tr>
<tr>
<td>Children’s programs</td>
<td>57.7</td>
<td>3.82</td>
</tr>
<tr>
<td>Documentaries</td>
<td>62.0</td>
<td>3.70</td>
</tr>
<tr>
<td>Other</td>
<td>30.0</td>
<td>2.43</td>
</tr>
</tbody>
</table>

Source: Survey

CONCLUSION

The principal aims of the study were to assess the Australian community’s awareness and valuation of the benefits accruing from consumption of domestic television programs and whether the value of those benefits is at least commensurate with the cost of supply. The principal valuation tool was a contingent valuation survey of a national representative sample of adult Australian residents.

The survey found widespread acceptance of the community benefits that are likely to accrue from the provision of Australian films and television programs. Generally, Australians are satisfied with the current amount of domestic programs on television. For a large majority the current level of expenditure associated with Australian programs is at least commensurate with the value of the benefits. Overall, the mean annual value of the benefits accruing to viewers estimated from the survey data (around $112 per household) is somewhat below the estimated per household cost of supply of $120 per annum. Included in the supply costs, however, is the economic surplus accruing to program producers which is not a net cost to society. Consequently, when the producer surplus is taken into account, the benefits to society accruing from the current level of Australian programs are likely to be roughly commensurate with costs.

While the current amount of Australian programming on television is widely supported, its current composition is not. Large proportions of the population would like to see an increase in the amount of documentaries, news and current affairs and children’s programs. The position with drama is mixed in that respondents indicated a desire for
more movies but less series and serials. Support for documentaries and children’s programs, and to a lesser extent news and current affairs, was consistently expressed in various parts of the survey.

The survey also found a moderate level of demand for some increase in Australian programs. When asked whether they would be prepared to incur an additional annual cost of $12 per household to fund a 10 per cent increase in Australian programs, only 48 per cent of respondents agreed (40 per cent disagreed and 12 per cent were undecided). Almost 18 per cent of total respondents were willing to accept an annual cost of more than $12. An additional 7 per cent of total respondents indicated a preparedness to incur an annual cost of less than $12. Thus, some 55 per cent of respondents valued an increase in Australian programs positively. Overall, the community’s minimum valuation for a 10 per cent increase in domestic programs was estimated to be between $6 and $8 per household per annum.

Demand for additional domestic programming was strongly influenced by genre. The survey tested the relative intensity of demand for the six principal program categories. The greatest intensity of demand for additional expenditure was associated with children’s programs. Demand for documentaries was also found to be strong and only slightly less intensive than that for children’s programs. Intensity of demand for drama was relatively weak. The only category with a lesser intensity was light entertainment.

These results suggest that the benefits from the regulation could be increased by the provision of a different mix of Australian programs to viewers. The most desirable shift appears to be one involving increases in documentaries and children’s programs, and commensurate decreases in other programs.

With respect to drama, it is unclear to what degree quality may have been an important influence on the findings. Although, in part, the regulation had been intended to encourage the broadcast of higher quality drama in the form of mini-series and telemovies, series/serial drama predominates the compliance of television operators with the current regulatory requirements. Consequently, the finding that people desire a reduction in the current level of drama (series/serials) is likely to have important implications for the current minimum drama requirements, either in terms of the minimum mandated levels, or in terms of the mix of programs required for compliance.
CHAPTER 8 RELATIVE PROFITABILITY OF DOMESTIC AND IMPORTED TELEVISION PROGRAMS

INTRODUCTION

Compliance with program regulation induces broadcasters to alter their preferred programming choices. As discussed in Chapter 5, the regulatory provisions with the greatest influence on program choices are the first release adult drama and children's programming requirements. It is clearly evident from that analysis that the children's requirements represent a net cost that broadcasters attempt to minimise. With respect to adult drama, however, compliance data indicate that stations regularly exceed the mandated levels. By itself, this could suggest that the broadcasting of adult drama may not be a substantial disincentive to broadcasters and thus raises doubts about the necessity of the requirement. Yet, paradoxically, broadcasters have regularly opposed the requirements and the widely held view is that, without regulation, domestic adult drama levels on commercial television would be lower.

This chapter attempts to resolve this paradox by examining the relative profitability of domestic and imported drama programs and the underlying incentives that may influence related programming choices. To do this effectively requires access to reliable revenue and cost data. However, while good estimates of revenues may be estimated from audience data, cost data are scarce and most of what are available is anecdotal. With respect to costs, therefore, the analysis relies on indicative data published in trade magazines and on 'informed' estimates obtained from industry sources. Although it is not possible to derive accurate estimates from the available data, the data may be used to produce estimates of the likely order of magnitude of disincentives associated with regulatory compliance.

AUDIENCES OF DOMESTIC AND IMPORTED PROGRAMS

Audience size is often used to demonstrate that a substantial proportion of the 'top 10' or 'top 20' rating programs is domestic. The proportion varies depending on what categories of programs are included in the listing. For example, listings of the 'most popular regular programs' (excluding movies, mini-series, special and one-off sports programs) show that most are domestic in origin (ABT 1991c). Such listings, however, do not take account of program differences, nor of the level of competition between imported and domestic programs. For example, while domestic news and current affairs programs are undoubtedly popular, it serves little purpose to compare them with the popularity of imported entertainment programs. A more useful approach would be to compare the popularity of similar types of programs expected to be close substitutes.
The number of people watching television (audience reach) at the time a program is broadcast is obviously a major determinant of the size of the audience attracted by the program. Audience reach varies considerably throughout the viewing day on different days of the week and different times of the year. It is largest during prime time (defined as the period between 6.00pm and 10.30pm) with a peak around 8.00pm. This is also the time when the most expensive programs are scheduled, as stations compete with each other to attract the largest share of the available audience and advertising revenue. The considerably smaller audiences available at other times of the day mean that a station’s profitability is primarily determined by its efforts during prime time\(^1\). Seasonal factors also influence television viewing and winter audiences tend to be substantially larger than those in summer. Consequently, care should be taken to ensure that comparisons of audience sizes are not unduly affected by seasonal or broadcast time differences.

One of the most stringent aspects of the regulation of Australian television content relates to drama programs (including situation comedy). The regulation mandates not only a minimum level of drama, but also requires that it be first-run and be broadcast for evening and night viewing\(^2\).

Drama programs generally are costly to produce and are more likely than most other programs to be substitutable by similar imported programs. Furthermore, imported drama programs are available to broadcasters at prices that are substantially lower than the domestic alternatives. Unless the cost disadvantages of the regulated domestic drama programs are outweighed by increased audiences (and thus increased advertising revenue) the regulation imposes a cost burden on broadcasters.

The following analysis examines the size of the audiences of imported and domestic drama programs on commercial television in Sydney. The data relate to drama programs broadcast in prime time during 5 selected four-week periods in 1994 and 1995\(^3\). Each week was analysed separately, giving a total of 20 observations. Multiple episodes of a program broadcast in a given week were treated as a single observation with an assigned audience equal to the average audience of the different episodes\(^4\). To be included in the analysis the broadcast of a program had to commence at or after 6.00pm and conclude no later than 10.30pm\(^5\).

The total number of programs captured by such a definition varied from week to week, ranging from a low of 18 to a high of 24 programs in any one week. The median number of programs was 21 per week. The number of imported and domestic programs also

---

1. According to one network executive, prime time earnings account for approximately 75 per cent of advertising revenue (Marshall 1993).
2. Since 1 January 1996 the specified period is 5.00pm to midnight. The time band has been expanded gradually over the years, but was initially consistent with peak viewing time.
3. The periods were 6 February to 5 March, 10 July to 6 August and 30 October to 26 November 1994, and 12 February to 11 March and 16 July to 12 August 1995.
4. Audience data are reported this way for drama serials with multiple episodes broadcast in a single week. For mini-series audience data are available for each episode. However, to maintain consistency with other programs, the average audience was used.
5. Minor variations to the commencement and concluding times were ignored.
varied from week to week. The maximum number of imported programs shown in any one week was 21 and the minimum was 14 (the median was 16 per week). The number of Australian programs ranged from a high of seven to a low of three (median was four).

There was little difference throughout the periods under consideration in the average audience of imported and domestic programs. However, this should be interpreted with care. In each period, substantially more imported than domestic programs were shown (two to seven times more) and their audiences displayed a wider variance than the audiences of domestic programs. In most weeks, the size of the audience attracted by the best performing domestic program was substantially lower than that of the best performing imported program. On only three occasions was the difference between them less than 70,000. If the programs are ranked by the size of their audience, on average it could be expected that the best performing Australian program would be ranked fourth. The best rank for Australian programs ranged from second (three occasions) to seventh (two occasions). Details are provided in Table 8.1.

### Table 8.1: Number and Audiences of Prime Time Drama Programs

<table>
<thead>
<tr>
<th>Period (Week Commencing)</th>
<th>No. of Drama Programs</th>
<th>Audience (Best Imported) ('000)</th>
<th>Audience (Best Australian) ('000)</th>
<th>Difference (Best Imported - Best Australian) ('000)</th>
<th>Rank Best Australian</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 Feb 1994</td>
<td>20 (3)</td>
<td>476</td>
<td>399</td>
<td>77</td>
<td>7</td>
</tr>
<tr>
<td>13 Feb 1994</td>
<td>18 (3)</td>
<td>480</td>
<td>406</td>
<td>74</td>
<td>3</td>
</tr>
<tr>
<td>20 Feb 1994</td>
<td>19 (3)</td>
<td>558</td>
<td>414</td>
<td>144</td>
<td>5</td>
</tr>
<tr>
<td>27 Feb 1994</td>
<td>19 (4)</td>
<td>519</td>
<td>434</td>
<td>85</td>
<td>5</td>
</tr>
<tr>
<td>10 July 1994</td>
<td>21 (6)</td>
<td>507</td>
<td>497</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>17 July 1994</td>
<td>21 (5)</td>
<td>698</td>
<td>453</td>
<td>245</td>
<td>5</td>
</tr>
<tr>
<td>24 July 1994</td>
<td>22 (5)</td>
<td>633</td>
<td>437</td>
<td>196</td>
<td>7</td>
</tr>
<tr>
<td>31 July 1994</td>
<td>19 (5)</td>
<td>557</td>
<td>404</td>
<td>153</td>
<td>6</td>
</tr>
<tr>
<td>30 Oct 1994</td>
<td>21 (6)</td>
<td>498</td>
<td>353</td>
<td>145</td>
<td>5</td>
</tr>
<tr>
<td>6 Nov 1994</td>
<td>22 (7)</td>
<td>443</td>
<td>368</td>
<td>75</td>
<td>3</td>
</tr>
<tr>
<td>13 Nov 1994</td>
<td>20 (6)</td>
<td>415</td>
<td>414</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>20 Nov 1994</td>
<td>19 (5)</td>
<td>476</td>
<td>385</td>
<td>91</td>
<td>4</td>
</tr>
<tr>
<td>12 Dec 1994</td>
<td>19 (3)</td>
<td>600</td>
<td>508</td>
<td>92</td>
<td>3</td>
</tr>
<tr>
<td>19 Dec 1994</td>
<td>22 (4)</td>
<td>698</td>
<td>518</td>
<td>180</td>
<td>3</td>
</tr>
<tr>
<td>26 Dec 1994</td>
<td>21 (4)</td>
<td>552</td>
<td>529</td>
<td>23</td>
<td>3</td>
</tr>
<tr>
<td>5 Mar 1995</td>
<td>20 (4)</td>
<td>625</td>
<td>485</td>
<td>140</td>
<td>4</td>
</tr>
<tr>
<td>16 July 1995</td>
<td>20 (3)</td>
<td>626</td>
<td>538</td>
<td>88</td>
<td>4</td>
</tr>
<tr>
<td>23 July 1995</td>
<td>21 (3)</td>
<td>643</td>
<td>550</td>
<td>93</td>
<td>3</td>
</tr>
<tr>
<td>30 July 1995</td>
<td>24 (3)</td>
<td>678</td>
<td>520</td>
<td>158</td>
<td>4</td>
</tr>
<tr>
<td>6 Aug 1995</td>
<td>20 (3)</td>
<td>757</td>
<td>570</td>
<td>187</td>
<td>2</td>
</tr>
<tr>
<td>median</td>
<td>21 (4)</td>
<td>558</td>
<td>453</td>
<td>105</td>
<td>na</td>
</tr>
</tbody>
</table>


For low performing programs, the audience size of imported and domestic programs were more closely aligned. In almost all of the weeks reviewed, the program with the least audience was imported. The relative performance of Australian and imported
drama programs is illustrated further in figure 8.1. The figure compares the average audiences of domestic and imported programs, as well as the average of the best and least performing quartiles of imported programs⁶.

**Figure 8.1: Average Audience of Domestic and Imported Drama**

![Graph showing average audience of domestic and imported drama programs over time.](image)


**PROGRAM CHOICE**

Programs are the primary means by which commercial broadcasters generate the final product of access to audiences that they sell to advertisers. As discussed in Chapter 3, in the absence of regulation, expected audience size and program cost are likely to be the principal determinants of broadcasters' program choices particularly when highly substitutable programs are involved. A broadcaster seeking to maximise profits will select programs in order of their expected contribution to gross profits. For any given program slot, the broadcaster will consider both expected advertising revenue (directly related to audience size) and program costs and will select from the available options the program that maximises the difference between the two.

Using the terminology of Chapter 2, indifference between a domestic program and a close substitute imported program⁷ is given by:

\[
\Pi_f = \Pi_d
\]

or

\[
rT\rho_f A_f - C_f = rT\rho_d A_d - C_d.
\]

⁶ Because of the small number of programs involved averages of the best and worst performing quartiles for Australian programs were not meaningful.

⁷ This implies that although the audiences of the two programs differ in size, they have the same demographic characteristics.
where the subscripts $f$ and $d$ denote a foreign and a domestic program respectively, and:

\[
\Pi = \text{gross profit generated by a program;}
\]
\[
r = \text{the market rate ($\$\text{per unit of advertising};)}
\]
\[
A = \text{expected audience generated by the program;}
\]
\[
C = \text{program cost per hour;}
\]
\[
T = \text{regulated quantity of advertising per hour;}
\]
\[
\rho = \text{probability of generating expected audience;}
\]

Utilising this identity, audience and program cost data may be used to estimate the relative attractiveness of substitutable domestic and imported programs.

While program cost data are not readily available, published and industry sources indicate that imported drama entertainment programs that are substitutable with domestic series/serial drama cost between $30,000 and $60,000 per hour for nationwide broadcasting\(^8\). Domestic programs cost between $100,000 and $150,000 per hour nationally, or between $33,000 and $50,000 for the Sydney market. The portion attributable to the Sydney market is approximately 33 per cent for both domestic and imported programs\(^9\).

The advertising rate per unit of audience applicable in Sydney was estimated by Sutton and Anderson (1995) as approximately 0.8 cents per person for a standard 30 seconds advertisement in prime time. The amount of advertising time per broadcast hour during prime time is limited by regulation to 13 minutes. Thus the value to a station of a unit of audience per broadcast hour ($rT$) is approximately 21 cents (i.e. 26 times 0.8 cents).

Assuming a fixed demand for drama programs in any one week, the broadcast of an additional domestic program can occur only by replacement of an imported program. The cost for the additional program will be within the ranges indicated above. The boundaries of those cost ranges may be used to estimate the maximum and minimum additional audiences that domestic programs would need to generate to compete effectively with imported substitutes. Four different combinations are possible, namely, a low cost domestic program replacing either a high or low cost imported program, and a high cost domestic replacing either a high or low cost imported program.

If the probability of generating the expected audience is assumed to be the same for both the domestic and imported programs, the size of additional audience ($A_d - A_f$) required

---

\(^{8}\) *TBI Yearbook* 95 reports program prices in the range between US$20,000 and US$100,000 per hour (TBI 1995). The upper price is likely to be associated with special high rating programs. *Variety* (1995) lists a price of US$16,000 for ‘hour dramas’ and US$9,500 for ‘half-hour sitcoms’. Local industry sources suggest a price range between A$30,000 and A$60,000 per hour for regularly broadcast drama.

\(^{9}\) This is the proportion of published total Australian expenditure on domestic and imported programs by commercial television stations in Sydney (ABA 1995b).
may then be estimated in each case by substituting the appropriate values in the above identity\textsuperscript{10}. After transposition, the relevant identity becomes:

$$rT(A_d - A_f) = C_d - C_f$$

For example, for the high cost imported and domestic combination in the Sydney market, we have:

$$0.21(A_d - A_f) = (50,000 - 20,000)$$

thus

$$A_d - A_f = 30,000/0.21$$

$$= 143,000$$ approx.

The details of the approximate audience differences for the other combinations are provided in table 8.2.

**Table 8.2: Audience Equivalents of Program Cost Differentials**

<table>
<thead>
<tr>
<th>Program Replacement Combination</th>
<th>Cost of Imported</th>
<th>Cost of Domestic</th>
<th>Additional Audience Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. High cost imported by high cost domestic</td>
<td>$20,000</td>
<td>$50,000</td>
<td>143,000</td>
</tr>
<tr>
<td>2. Low cost imported by high cost domestic</td>
<td>$10,000</td>
<td>$50,000</td>
<td>190,000</td>
</tr>
<tr>
<td>3. High cost imported by low cost domestic</td>
<td>$20,000</td>
<td>$33,000</td>
<td>62,000</td>
</tr>
<tr>
<td>4. Low cost imported by low cost domestic</td>
<td>$10,000</td>
<td>$33,000</td>
<td>110,000</td>
</tr>
</tbody>
</table>

The estimates in table 8.2 suggest that a domestic drama program generating an audience that exceeds that of an imported substitute by at least 190,000 would always be preferred to the imported program. Similarly, a domestic program generating an audience that exceeds that of an imported substitute by less than 62,000 would not be preferred to the imported program. In between these boundaries, whether a domestic program is preferred to a domestic substitute will depend on the relative cost of the two programs.

**RELATIVE PROFITABILITY OF DOMESTIC AND IMPORTED PROGRAMS**

As discussed above, on average both imported and domestic programs generate similar audiences in the Sydney market. Thus, if an average imported program is replaced by an average domestic program, the stations would be faced with a disincentive equal to the

---

\textsuperscript{10} The issue of risk and differences in the probabilities of generating the expected audience will be discussed below.
difference in the cost of the two programs. Consequently, on average, an imported program would be preferred to a domestic one. However, domestic programs do perform better than at least some imported programs. Is their better performance large enough to outweigh the cost disadvantage with at least some of the imported programs that are regularly broadcast during prime time?

Typically, imported programs are purchased after their release in their home market and their cost tends to reflect their capacity to attract audiences. After allowing for cultural and taste differences, their performance in their home market acts as an indicator of likely performance in Australia. Programs likely to succeed in Australia are keenly sought and attract top prices. Given the cost advantage of imported programs, historical performance suggests that Australian programs of the type that are regularly broadcast are unlikely to be preferred to the best performing imported programs.

Some imported programs have always outperformed the best performing domestic drama programs during the period under review. As indicated above, only on three occasions (in twenty) the best performing imported program had an audience advantage of less than 70,000 over the best performing domestic program. Thus, typically, in addition to their cost advantage, best performing imported programs have a substantial audience advantage equivalent to a revenue advantage of at least $14,700 per hour.

Domestic programs that attract better than average audiences may be capable of producing a better gross profit outcome than imported programs that generate less than average audiences. How large must the additional audience of a domestic program be if broadcasters are to prefer it to an average cost\(^{11}\), average audience imported program? For a low cost Australian drama program\(^ {12}\) to be preferred to an average imported program, it would have to generate an additional audience,

\[
A_d - A_f = \frac{(33,000 - 15,000)}{0.21} = 86,000 \text{ approximately.}
\]

For high cost Australian drama, the additional audience required would be 167,000.

Do such Australian programs exist in practice? Table 8.3 presents details of the audiences generated by the best performing Australian programs compared with the average audience of imported substitutes. Table 8.3 shows that, in 50 per cent of the cases examined, the best performing Australian programs generated sufficient audience to outweigh the cost advantage of an average imported program. The results suggest that, while domestic programs have not been able to overcome the cost disadvantage of imported programs generally, they are competitive with average and low performing imported programs. That being the case, it may be expected that domestic drama would

---

\(^{11}\) $45,000 (middle of the range quoted above) was used as the average cost (i.e. equivalent to $15,000 for the Sydney market).

\(^{12}\) Most of the Australian drama during the period under review is estimated to have been at the low end of the cost range.
continue to be broadcast even in the absence of regulation. The amount broadcast would depend on the relative profitability of the available domestic and imported programs.

Table 8.3: Audience Advantage of Domestic Drama Programs

<table>
<thead>
<tr>
<th>Period</th>
<th>Best Australian ('000)</th>
<th>Average Imported ('000)</th>
<th>Audience Difference ('000)</th>
<th>Australian Advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 Feb 1994</td>
<td>399</td>
<td>358</td>
<td>41</td>
<td>no</td>
</tr>
<tr>
<td>13 Feb 1994</td>
<td>406</td>
<td>339</td>
<td>67</td>
<td>no</td>
</tr>
<tr>
<td>20 Feb 1994</td>
<td>414</td>
<td>335</td>
<td>79</td>
<td>no</td>
</tr>
<tr>
<td>27 Feb 1994</td>
<td>434</td>
<td>354</td>
<td>80</td>
<td>no</td>
</tr>
<tr>
<td>10 July 1994</td>
<td>497</td>
<td>375</td>
<td>122</td>
<td>yes</td>
</tr>
<tr>
<td>17 July 1994</td>
<td>453</td>
<td>403</td>
<td>50</td>
<td>no</td>
</tr>
<tr>
<td>24 July 1994</td>
<td>437</td>
<td>397</td>
<td>40</td>
<td>no</td>
</tr>
<tr>
<td>31 July 1994</td>
<td>404</td>
<td>387</td>
<td>17</td>
<td>no</td>
</tr>
<tr>
<td>30 Oct 1994</td>
<td>353</td>
<td>292</td>
<td>61</td>
<td>no</td>
</tr>
<tr>
<td>6 Nov 1994</td>
<td>368</td>
<td>288</td>
<td>80</td>
<td>no</td>
</tr>
<tr>
<td>13 Nov 1994</td>
<td>414</td>
<td>315</td>
<td>99</td>
<td>yes</td>
</tr>
<tr>
<td>20 Nov 1994</td>
<td>385</td>
<td>309</td>
<td>76</td>
<td>no</td>
</tr>
<tr>
<td>12 Feb 1995</td>
<td>508</td>
<td>360</td>
<td>148</td>
<td>yes</td>
</tr>
<tr>
<td>19 Feb 1995</td>
<td>518</td>
<td>356</td>
<td>162</td>
<td>yes</td>
</tr>
<tr>
<td>26 Feb 1995</td>
<td>529</td>
<td>349</td>
<td>180</td>
<td>yes*</td>
</tr>
<tr>
<td>5 Mar 1995</td>
<td>485</td>
<td>358</td>
<td>127</td>
<td>yes</td>
</tr>
<tr>
<td>16 July 1995</td>
<td>538</td>
<td>385</td>
<td>153</td>
<td>yes</td>
</tr>
<tr>
<td>23 July 1995</td>
<td>550</td>
<td>360</td>
<td>190</td>
<td>yes*</td>
</tr>
<tr>
<td>30 July 1995</td>
<td>520</td>
<td>359</td>
<td>161</td>
<td>yes</td>
</tr>
<tr>
<td>6 Aug 1995</td>
<td>570</td>
<td>356</td>
<td>214</td>
<td>yes*</td>
</tr>
</tbody>
</table>

a = Advantage also for high price Australian drama.

Source: A. C. Nielsen 1995

Profit maximising broadcasters would normally select programs for inclusion in their broadcasting schedule on the basis of the programs’ marginal contributions to gross profit. In any one period (a day, a week), the number of programs included in the broadcast schedule is fixed. The inclusion of a ‘new’ program in the schedule because it is mandated by regulation or otherwise can occur only through the replacement of one already in the schedule. Typically, the replaced program would be the one contributing least to the broadcaster’s profits and, in a sense, represents the opportunity cost of including the new program in the schedule. Thus, a comparison of the profitability of Australian drama programs relative to the least profitable imported drama in the broadcast schedule is likely to offer useful insights into the impact of regulatory requirements. How does the profitability of domestic and imported drama compare?

As discussed above, after appropriate adjustments to account for cost differentials, audience data may be used as an indicator of the relative profitability of imported and domestic programs. Table 8.4 provides details of the audiences generated by each of the prime time Australian drama programs during the review period. The table also provides details of the audience generated by the worst performing prime time imported drama program during each of the weeks examined.
Table 8.4: Relative Performance of Prime Time Domestic Drama

<table>
<thead>
<tr>
<th>Period (Week Beginning)</th>
<th>Home &amp; Away</th>
<th>Blue Heelers</th>
<th>Neighbours</th>
<th>Heartbreak High</th>
<th>Law Of The Land 2</th>
<th>Battlers-P2</th>
<th>Man From Snowy River</th>
<th>Fire</th>
<th>Lowest Imported</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>('000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-Feb-94</td>
<td>399</td>
<td>275</td>
<td>199</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>189</td>
<td></td>
</tr>
<tr>
<td>13-Feb-94</td>
<td>406</td>
<td>366</td>
<td>243</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>182</td>
<td></td>
</tr>
<tr>
<td>20-Feb-94</td>
<td>414</td>
<td>343</td>
<td>264</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>187</td>
<td></td>
</tr>
<tr>
<td>27-Feb-94</td>
<td>434</td>
<td>376</td>
<td>286</td>
<td>409</td>
<td></td>
<td></td>
<td></td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>10-Jul-94</td>
<td>454</td>
<td>395</td>
<td>304</td>
<td>278</td>
<td>343</td>
<td>497</td>
<td></td>
<td>219</td>
<td></td>
</tr>
<tr>
<td>17-Jul-94</td>
<td>406</td>
<td>453</td>
<td>271</td>
<td>256</td>
<td>304</td>
<td></td>
<td></td>
<td>287</td>
<td></td>
</tr>
<tr>
<td>24-Jul-94</td>
<td>437</td>
<td>427</td>
<td>315</td>
<td>260</td>
<td>304</td>
<td></td>
<td></td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>31-Jul-94</td>
<td>404</td>
<td>388</td>
<td>297</td>
<td>248</td>
<td>283</td>
<td></td>
<td></td>
<td>257</td>
<td></td>
</tr>
<tr>
<td>30-Oct-94</td>
<td>351</td>
<td>336</td>
<td>233</td>
<td>183</td>
<td>276</td>
<td></td>
<td></td>
<td>353</td>
<td>163</td>
</tr>
<tr>
<td>6-Nov-94</td>
<td>337</td>
<td>324</td>
<td>187</td>
<td>142</td>
<td>250</td>
<td></td>
<td></td>
<td>368</td>
<td>176</td>
</tr>
<tr>
<td>13-Nov-94</td>
<td>360</td>
<td>414</td>
<td>240</td>
<td>150</td>
<td>283</td>
<td></td>
<td></td>
<td>333</td>
<td>195</td>
</tr>
<tr>
<td>20-Nov-94</td>
<td>364</td>
<td>385</td>
<td>240</td>
<td>247</td>
<td>291</td>
<td></td>
<td></td>
<td>189</td>
<td></td>
</tr>
<tr>
<td>12-Feb-95</td>
<td>342</td>
<td>214</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>508</td>
<td>181</td>
</tr>
<tr>
<td>19-Feb-95</td>
<td>341</td>
<td>518</td>
<td>189</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>445</td>
<td>212</td>
</tr>
<tr>
<td>26-Feb-95</td>
<td>354</td>
<td>529</td>
<td>205</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>462</td>
<td>194</td>
</tr>
<tr>
<td>5-Mar-95</td>
<td>381</td>
<td>485</td>
<td>196</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>388</td>
<td>181</td>
</tr>
<tr>
<td>16-Jul-95</td>
<td>465</td>
<td>538</td>
<td>260</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>227</td>
<td></td>
</tr>
<tr>
<td>23-Jul-95</td>
<td>427</td>
<td>550</td>
<td>269</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>166</td>
<td></td>
</tr>
<tr>
<td>30-Jul-95</td>
<td>454</td>
<td>520</td>
<td>280</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>153</td>
<td></td>
</tr>
<tr>
<td>6-Aug-95</td>
<td>455</td>
<td>570</td>
<td>273</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>175</td>
<td></td>
</tr>
<tr>
<td>overall average</td>
<td>399</td>
<td>431</td>
<td>248</td>
<td>241</td>
<td>286</td>
<td>497</td>
<td>336</td>
<td>451</td>
<td></td>
</tr>
<tr>
<td>cost adjusted</td>
<td>313</td>
<td>264</td>
<td>162</td>
<td>155</td>
<td>200</td>
<td>283</td>
<td>250</td>
<td>284</td>
<td></td>
</tr>
<tr>
<td>average import</td>
<td>199</td>
<td>200</td>
<td>199</td>
<td>218</td>
<td>217</td>
<td>219</td>
<td>181</td>
<td>192</td>
<td></td>
</tr>
<tr>
<td>net advantage</td>
<td>114</td>
<td>64</td>
<td>(37)</td>
<td>(64)</td>
<td>(17)</td>
<td>64</td>
<td>69</td>
<td>92</td>
<td></td>
</tr>
</tbody>
</table>

a = adjustment based on estimated average cost of low-cost domestic drama
b = adjustment based on estimated average cost of high-cost domestic drama
c = adjustment based on estimated miniseries cost of $180,000 per hour ($60,000 for Sydney)

The details provided in table 8.4 also allow comparisons of the weekly performance of the domestic drama programs with that of the ‘marginal’ imported program broadcast the same week. The relative attractiveness of the domestic programs can be gauged by adjusting their audience performance for the cost differential between domestic and imported programs. Furthermore, because programming decisions are seldom made on a week to week basis\textsuperscript{13}, the average performance of the domestic drama programs over the weeks each was broadcast was calculated and compared with the average audience of the least imported programs broadcast during the same period (lower section of the table). Finally, the overall average audience of domestic programs is adjusted for their estimated cost disadvantage to provide a measure of their attractiveness relative to imported programs.

At a more general level, the average audience of all the Australian drama programs was compared with the average audience of the lowest rating quartile of the imported programs in each week of the review period. To allow an indirect comparison of relative profitability, the average audience of the imported programs was adjusted upwards to compensate for the associated cost advantage \textit{vis à vis} domestic programs. As noted above, each unit of prime time audience is equivalent to $0.21 per hour in Sydney. By applying this rate to the net audience advantage, the average advertising revenue advantage of Australian drama programs may be calculated. The results suggest that on average an Australian drama program is broadly competitive with the average lower rating imported substitute (see table 8.5 for details).

However, these results should be interpreted with care. Analysis on the basis of audiences achieved by programs shown on prime time television, such as those provided in table 8.5, largely ignores the risk associated with program choice. Programs failing to secure sufficiently large audiences are unlikely to be retained in prime time schedules for more than short periods of time. Thus the sample of domestic programs on which the analysis is based is largely made up of ‘successful’ programs rather than being representative of domestic programs in general. When taking risk into account, a broadcaster would have an incentive to invest in domestic programming only if the risk-adjusted expected returns are greater than those of available imported substitutes.

\textsuperscript{13} Typically, commitment to serial drama is for a season of about three months of weekly episodes.
### Table 8.5: Revenue Advantage of Average Domestic Drama Programs

<table>
<thead>
<tr>
<th>Period</th>
<th>Average Australian</th>
<th>Average Imported 'qbottom'</th>
<th>Average Imported 'qbottom+d'</th>
<th>Relative Australian Advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Week Beginning)</td>
<td>('000)</td>
<td>('000)</td>
<td>('000)</td>
<td></td>
</tr>
<tr>
<td>6 Feb 1994</td>
<td>291.00</td>
<td>248.75</td>
<td>334.75</td>
<td>(9.2)</td>
</tr>
<tr>
<td>13 Feb 1994</td>
<td>338.33</td>
<td>231.75</td>
<td>317.75</td>
<td>4.3</td>
</tr>
<tr>
<td>20 Feb 1994</td>
<td>340.33</td>
<td>216.50</td>
<td>302.50</td>
<td>7.9</td>
</tr>
<tr>
<td>27 Feb 1994</td>
<td>376.25</td>
<td>248.00</td>
<td>334.00</td>
<td>8.9</td>
</tr>
<tr>
<td>10 July 1994</td>
<td>378.50</td>
<td>262.00</td>
<td>348.00</td>
<td>6.4</td>
</tr>
<tr>
<td>17 July 1994</td>
<td>338.00</td>
<td>310.00</td>
<td>396.00</td>
<td>(12.2)</td>
</tr>
<tr>
<td>24 July 1994</td>
<td>348.60</td>
<td>280.25</td>
<td>366.25</td>
<td>(3.7)</td>
</tr>
<tr>
<td>31 July 1994</td>
<td>324.00</td>
<td>280.75</td>
<td>366.75</td>
<td>(9.0)</td>
</tr>
<tr>
<td>30 Oct 1994</td>
<td>288.67</td>
<td>194.75</td>
<td>280.75</td>
<td>1.7</td>
</tr>
<tr>
<td>6 Nov 1994</td>
<td>268.00</td>
<td>199.25</td>
<td>285.25</td>
<td>(3.6)</td>
</tr>
<tr>
<td>13 Nov 1994</td>
<td>296.67</td>
<td>240.75</td>
<td>326.75</td>
<td>(6.3)</td>
</tr>
<tr>
<td>20 Nov 1994</td>
<td>305.40</td>
<td>220.25</td>
<td>306.25</td>
<td>(0.2)</td>
</tr>
<tr>
<td>12 Feb 1995</td>
<td>354.67</td>
<td>240.25</td>
<td>326.25</td>
<td>6.0</td>
</tr>
<tr>
<td>19 Feb 1995</td>
<td>373.25</td>
<td>243.40</td>
<td>329.40</td>
<td>9.2</td>
</tr>
<tr>
<td>26 Feb 1995</td>
<td>387.50</td>
<td>259.25</td>
<td>345.25</td>
<td>8.9</td>
</tr>
<tr>
<td>5 Mar 1995</td>
<td>362.50</td>
<td>222.00</td>
<td>308.00</td>
<td>11.4</td>
</tr>
<tr>
<td>16 July 1995</td>
<td>421.00</td>
<td>240.75</td>
<td>326.75</td>
<td>19.8</td>
</tr>
<tr>
<td>23 July 1995</td>
<td>415.33</td>
<td>231.40</td>
<td>317.40</td>
<td>20.6</td>
</tr>
<tr>
<td>30 July 1995</td>
<td>418.00</td>
<td>200.20</td>
<td>286.20</td>
<td>27.7</td>
</tr>
<tr>
<td>6 Aug 1995</td>
<td>432.67</td>
<td>224.75</td>
<td>310.75</td>
<td>25.6</td>
</tr>
</tbody>
</table>

'qbottom' = lowest rating quartile.
'qbottom+d' = cost adjusted lowest rating quartile
figures in brackets are negative

*a* = source of audience data: A. C. Nielsen (1995)

### RATE OF SUCCESS OF NEW PROGRAMS

Most domestic drama programs are in the form of series. This is usually the lowest cost of drama programs available and thus, as indicated above, the form most likely to be competitive with imported programs. For a broadcaster to have an incentive to invest in a new series, its expected audience would have to be large enough to generate adequate advertising revenue to recover all the associated costs, as well as the opportunity cost of forgoing the alternative imported programming.

Assuming that imported programming capable of attracting an audience equal to the average of the least performing quartile in the twenty weeks review period is readily available, the foregone audience is equal to approximately 240,000

14 This is the weighted average audience of the least performing quartile of imported drama programs in each of the twenty weeks.

15 This assumes that the broadcaster does not treat the equity investment in return for a share of prospective overseas sales as part of the programming costs to be recouped from domestic broadcasting.
least $40,000\textsuperscript{16} equivalent to a further 190,000 viewers. That is a total expected audience of at least 430,000. On this basis, a series not expected to generate an audience level of such a magnitude would not normally be produced.

The available data suggest that the production series not achieving audiences of that size seldom continues beyond the initial production run. This conclusion is based on an analysis of domestic drama programs that failed to attract continuing investment by broadcasters after their first or second production run (maximum of 26 episodes). The data include most (nine programs) of the prime time domestic drama series (including situational comedy) that commenced broadcasting in Sydney since January 1992\textsuperscript{17}. Details are provided in table 8.6.

<table>
<thead>
<tr>
<th>Table 8.6: Programs Discontinued After a Short-Term in Prime Time</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Program</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Bingles</td>
</tr>
<tr>
<td>Bligh Diaries</td>
</tr>
<tr>
<td>Late for School</td>
</tr>
<tr>
<td>Bony</td>
</tr>
<tr>
<td>My Two Wives</td>
</tr>
<tr>
<td>Over The Hill</td>
</tr>
<tr>
<td>Wedlocked</td>
</tr>
<tr>
<td>Bob Morrison Show</td>
</tr>
<tr>
<td>Echo Point\textsuperscript{1}</td>
</tr>
</tbody>
</table>

\textsuperscript{a} = Applies only to the two series *My Two Wives* and *Bob Morrison Show.*

\textsuperscript{b} = Data relate to prime time broadcasts only. The program was also broadcast on Saturday and Sundays outside prime time (4.00pm) concurrently with either prime time or late evening broadcasts for 25 weeks.


The details in table 8.6 show that four programs were withdrawn from prime time before the completion of the first run of 13 weeks. Only one program (*The Bob Morrison Show*) was broadcast in prime time for two complete runs of 13 weeks each. Another program (*Echo Point*) is a special case in that it was broadcast during both prime time and non-prime time. The prime time broadcasts ran for 15 weeks as daily episodes of half hour each weekday. The weekday episodes ran for a further 10 weeks outside prime time (11.30pm). Concurrently with the weekday episodes, the program was broadcast as daily episodes of one hour on Saturdays and Sundays outside prime time (4.00pm). Its non-prime time performance has not been considered in the analysis. Only three of the programs in table 8.6 (*My Two Wives*, *The Bob Morrison Show* and *Echo Point*) continued to be produced beyond the initial production run. As already indicated, *Echo*...
Point is a special case. Its continued production was certainly not warranted by the size of its audience (the smallest of any of the programs in the table). It is possible, of course, that the continued production may have been due to special factors, including the broadcaster's need to ensure compliance with the domestic drama quota. The other two programs generated the largest and second largest audiences of all the programs listed in the table.

It is interesting to note that the initial production run of the Bob Morrison Show attracted an average audience of 424,000 (range 291,000 - 460,000) and that of My Two Wives 430,000 (range 344,000 - 508,000). My Two Wives failed to maintain its initial success with the second production run. Only six episodes of the second run were broadcast and generated an average audience of only 277,000 (range 196,000 - 356,000). The Bob Morrison Show was broadcast for a full 26 week period but did not continue beyond that. In the second 13 week run it improved slightly on its performance during the first run and achieved an average audience of 459,000 (range 392,000 - 503,000).

The best performer among the series that were not produced beyond the first run was Wedlocked. It achieved an average audience of 345,000 in the seven weeks it was broadcast. Two other series, Bony and Over The Hill, achieved average audiences of more than 300,000. In all three cases, their audiences appear to have been inadequate to secure the broadcaster's commitment to a second production run. Although the available data are insufficient to reach a firm conclusion, it would nonetheless appear that an average audience of around 350,000 to 420,000 for the initial production run of a series is needed to ensure a second or further production run.

**RISK AND PREDICTION OF AUDIENCE APPEAL**

The ability of a program to attract an audience is not readily predictable. Program producers and broadcasters attempting to minimise the risk of failure tend to favour previously successful formats and themes. Audience tastes, however, may change rapidly and previously proven formats may lose their appeal. Indeed, there are many examples of initially highly successful series that failed to retain their audience appeal. Nonetheless, it remains true that the continuing success of an existing series is less difficult to predict than the success of a new series (Owen and Wildman 1992).

Imported programs usually come with proven audience-generating capacity in their home market. Their capacity to attract audiences in the local market generally can be pre-assessed with reasonable accuracy. Thus the broadcaster can readily assess the risk associated with the purchase of the program rights. Even if the risk is not assessed accurately, the broadcaster's maximum exposure is limited to one year's programming (usually 26 hours) at a cost for national broadcast rights of between $780,000 and $1.56 million.

In contrast, domestic program rights typically are purchased before production of the program. The broadcasters are usually required to provide the set up costs to produce
the initial run of the series (up to $700,000), as well as purchase the program rights. The initial commitment is around $150,000 per hour of a series (including the set up costs), plus an additional $36,000 per hour as equity investment in return for a portion of overseas sales if the series is successful (Woods 1995). Typically, the commitment is for at least 13 hours of programming and is thus equivalent to an initial exposure of approximately $2,500,000. In addition, the program’s appeal to audiences is untested. Overall, therefore, the risk associated with the purchase of the rights to a domestic program is substantially greater than that for imported substitutes.

The inability to predict reliably the audience appeal of a program is a risk that broadcasters need to take account of in their programming decisions and adjust expected returns accordingly. The level of risk associated with the ability of a series to secure and maintain audience appeal for one or more production runs is difficult to assess. The level of risk would not be the same for all series and would be influenced by a variety of factors with general (e.g. program format) or specific (e.g. story or theme) applicability. Nonetheless, an indication of the average level of risk associated with the ability of a series to secure multi-run success may be derived from the proportion of drama series that go into multiple production runs.

Comprehensive data on the production intentions and success and failure of series, however, are not readily available. The limited available data suggest that around 50 per cent of the domestic drama series, screened on commercial television for the first time in the period between 1992-1995, were produced beyond the initial run. The situation is consistent with that in some other countries. Phillips (1994) examined 500 popular prime time series (both imported and domestic) screened in the United Kingdom for the first time between 1984 and 1993. He found that 51 per cent of situation comedies and 59 per cent of drama series screened on independent television progressed to a second run. An earlier study in the United States found that, from 1960 to 1971, only 36 per cent of new series, on average, went into a second production run series and that the likelihood of a second run decreased to 24 per cent in the period 1972-1981 (Owen and Wildman 1992).

The likelihood of a series failing to attract adequate audiences to ensure more than an initial production run has an important influence on programming decisions. It enters the programming decision process in the form of a discount factor that devalues the size of the expected audience and, thus, acts as a disincentive against risky series. The greater the risk, the larger the expected audience needed to ensure support for a series. Thus, when choosing between competing programs, in addition to audiences and cost differentials, a broadcaster will also consider differentials in the probability that the programs will attain the expected audiences.

As noted above, a broadcaster has substantially more information on the likely appeal of imported programs than on that of new domestic programs. The appeal of an imported

---

18 It was only possible to determine the production status of 14 such adult drama series in the period. The number of domestic drama series screened for the first time in the period may have been slightly larger (at most two more series).
program is already pre-tested in the program's own domestic market. Previous experience on the level of commonality of tastes in the overseas and Australian markets will guide judgements on the prospective appeal of the programs. Such information is not available in the case of a new domestic program. Thus, to the extent that overseas appeal is an indicator of local appeal, the broadcaster faces a smaller risk of failure with an imported program.

The likelihood that an imported series will not secure adequate audiences is less difficult to assess. Unlike the domestic situation where the broadcaster determines the ultimate fate of a series, the fate of imported programs may be determined by exogenous factors such as demand conditions prevailing in the country of origin. Even if continued production is assured, and the program does not appeal sufficiently to local prime time audiences, it can be shifted to a non-prime time slot for the duration of the associated purchase obligations without incurring a substantial penalty. A replacement imported program for prime time is likely to be available at similar cost. In contrast, a similar shift for a domestic series would incur a substantial penalty. Because of the regulation, the disincentives to the broadcaster would be compounded since the replacement prime-time series would have cost and risk disadvantages similar to those of the one that is being replaced.

Thus it would appear that the risk associated with a domestic series is substantially greater than that associated with an imported series. Consequently, the need to discount expected audiences by the associated risk factor means that the attractiveness to broadcasters of investment in domestic drama series relative to imported programs would be much less than the preceding (risk-free) analysis suggests.

Obviously, the rate at which anticipated audiences are discounted to account for risk has a major influence on the relative attractiveness of domestic and imported drama programs. A discount rate approximating the average rate of failure of new drama series to attract sufficient audiences for multi-run production (50 per cent), would render even the best performing domestic series unattractive. Even a more moderate discount rate of 25 per cent would erode most of the advantage of average performing domestic drama vis a vis low rating imported programs identified in table 8.5 above.

It follows that the more risk averse broadcasters are, the less likely that they would find investment in domestic drama attractive. Given the rate of failure of new series, domestic drama in general would not be appealing to broadcasters unless they are able to derive sufficient extra benefits from successful series to offset the loss from those that fail. From the above analysis there seems to be little capacity for them to do so. What this implies is that the regulation may be forcing broadcasters to take greater risk in investing in new drama programs than they otherwise would.

The fact that, on occasions, broadcasters have supplied substantially more domestic drama than required by the regulation is not necessarily inconsistent with risk aversion. Most, if not all of the risk, is associated with the development and initial production of a new series. Once a series has proven its audience appeal, a broadcaster would have an incentive to utilise it to the maximum extent possible. As discussed above, such a series
would have a financial advantage over marginal imported alternatives. Also, because audience tastes can change rapidly, stockpiling of successful series to ensure compliance at some future date may involve unacceptable risks to broadcasters. Thus, overcompliance with the regulation is a direct outcome of rational behaviour during any period when broadcasters have achieved a better than average success rate with their domestic series. Broadcasters with a less than average success rate, on the other hand, are induced to make further investment to ensure at least minimum compliance levels. Overall then, this would lead to an expectation that stations will supply more drama than the minimum levels set by the regulation. As shown in Chapter 5 such an expectation is consistent with the observed behaviour of stations.

CONCLUSION

The performance of television stations with respect to drama often appears paradoxical. Although the requirements are opposed by the stations, their level of usage of domestic drama in their programming schedules is often well in excess of regulatory requirements. Such an outcome suggests that the stations may be responding to incentives other than the regulation in scheduling domestic drama. It may also indicate that domestic drama is competitive with imported substitutes and may not be a substantial cost burden on stations.

The above analysis has highlighted the fact that domestic drama is popular with audiences and regularly attracts audiences of a size similar to those of the most popular imported substitutes. Although popular with audiences, the relatively higher cost of domestic drama renders it less appealing to stations than high rating imported substitutes. Relative to lower rating imports, however, the high popularity of domestic drama is sufficient to outweigh the program cost disadvantage. Nonetheless, the commissioning of domestic drama represents a much higher risk to stations than the purchase of imported substitutes whose market appeal has already been tested in overseas markets. Thus, while broadcasters have an incentive to schedule domestic drama after it has proven its audience appeal, the high initial risk of commissioning the drama is a disincentive to a high level of production. Consequently, without the regulatory requirements, it is likely that the level of domestic drama production would decline below the regulated levels.
CHAPTER 9 IMPACT AND EFFICIENCY OF THE REGULATION

INTRODUCTION

The *raison d'être* of regulation is to alter behaviour in a way that generates more socially desirable outcomes. Although efficient regulation will lead to an overall improvement in social welfare, its impact on members of society will not be the same. In particular, among those affected by the regulation there will be both winners and losers. The winners are all those who receive a net benefit from the operation of the regulation. The losers are those who incur a net cost.

As described in Chapter 5, the various instruments of the Australian content regulation for television programs achieve different degrees of effectiveness. Notwithstanding that past regulatory instruments may have been effective in ensuring exposure to Australian programs and, thus, may have contributed to increased consumer demand for them, compliance with some of the current instruments appears to be achieved easily by broadcasters. The obligations set by those instruments are readily met or are exceeded by the stations, suggesting that the outcome is likely to be more a response to underlying incentives rather than to coercive influence of the regulation. In such circumstances it is unlikely that there are substantial gains or losses associated with the regulatory instruments. Similar outcomes are probable even in the absence of the regulation. Indeed, the outcomes suggest that regulatory instruments may not be necessary and that society could be at least as well off without them.

Other instruments are clearly effective in altering the behaviour of stations. Without them, the outcomes would be substantially different. It is obvious that such instruments impose a cost on broadcasters which they would otherwise choose to avoid. Whether those instruments lead to a net gain by society depends on the gains accruing to those who benefit from the outcomes. If the gains outweigh the costs, including the cost of implementing and administering the instruments, then society’s welfare would be improved and the regulatory intervention justified.

This chapter contains an examination of the impact of the major aspects of the regulation on various identifiable groups in society. In each case, the type of benefit or loss incurred will be described and wherever possible, the magnitude of the gains and losses will be estimated. The likely degree of efficiency of the regulation will also be discussed giving some consideration to potential improvements that may accrue from changes to, or replacement of, existing instruments.

---

1 Retention of the instruments is not cost-free and may involve substantial administrative expenditure by the regulator and by the stations.
IMPACT OF THE REGULATION

By specifying the minimum acceptable levels of overall domestic programming and of specific types of programs, Australian content regulation represents a considerable intrusion into the operations of commercial television stations. The principal effects of the regulation manifest themselves as:

- Reduced profitability of stations by constraining their programming and scheduling choices. Reduced profitability may arise from increased programming and administrative costs, and lower advertising revenue.

- Increased program diversity and choice to viewers. The value of the increased diversity and choice has to be offset against the value of the replaced programs to assess whether viewers are made better off by the regulation.

- Distortion of the advertising market by increasing the cost of television advertising relative to the cost of advertising on other media.

- Increased demand for Australian programs offset by commensurately lower demand for imported programs with consequential effects on prices of domestic and imported programs, and on the profitability of program suppliers.

- Increased returns to resources and increased employment and job opportunities to individuals involved in the production of favoured programs.

The gains and losses of a regulation may be assessed by examining the changes likely to occur if the various instruments of the regulation were abolished. Each of the instruments is assessed independently. However, as some of the instruments interact with each other, the impact of the interaction is taken into account in the assessment. The principal instruments for which interaction is likely to be important include all specific first release requirements (e.g. adult and children’s drama) which contribute concurrently to compliance with the overall transmission quota.

Transmission Quota

The transmission quota does not appear to be a major burden on the stations. As discussed in Chapter 5, stations have readily complied with it and often have exceeded the requirement. In the absence of the transmission quota, but with the other requirements in place, it is unlikely that a substantial change in the proportion of Australian programming would follow. Much of the Australian programming has a large element of natural protection from imports. They include programs such as news and current affairs and sports programs. Although their average per hour cost may exceed that of imported entertainment programs, their popularity with audiences more than outweighs their relative cost disadvantage. Other programs, such as game shows and light entertainment, are both price competitive with imports and are appealing to audiences. Stations compete vigorously for such programs and include them on their
schedules primarily because they are profitable, not because of the need to comply with the transmission quota.

There is some likelihood, however, that further increases in the transmission quota levels could place a cost burden on at least some broadcasters. The projected increase from 50 per cent to 55 per cent in the quota levels in 1998 is likely to affect the program schedules of both TEN and ATN in Sydney and of the stations associated with their networks. Both will need to increase their levels of Australian content to ensure continued compliance with the quota. Given that both had to increase their Australian content by small amounts to ensure compliance with the current arrangements, accommodation of the projected increase may lead to a small reduction in their profitability.

To comply with the higher levels, both networks would need to increase their Australian programming by an average of approximately 330 hours per year (a little less than one hour per day). To a small extent, the projected increase in the quota levels would be offset by the recently introduced concession crediting first release sports program that extend beyond midnight for compliance with the transmission quota. The stations, however, would have substantial scope to minimise the cost of compliance by replacing their most marginal imported programming with a low cost domestic program, including a repeat broadcast of a program already shown on some earlier occasion.

The requirements for Australian children’s programs and first release drama contribute at least 400 hours of programming to satisfy the transmission quota obligations of stations. Obviously, if those requirements were not in place, compliance with the transmission quota would have to be met by the scheduling of other Australian programs.

A transmission quota by itself is unlikely to deliver substantial benefits to viewers. Such a regulatory approach was in place in the early days of the Australian regulation and was found to be inadequate. Its subsequent progressive augmentation with more stringent requirements was predicated by aims to make the regulation more effective in delivering desirable outcomes. A transmission quota alone may encourage broadcasters to produce low cost, ‘quota quickies’ programs for scheduling in unpopular time slots or low viewing summer months as a way of minimising the cost of the requirements. To a large extent, this was the approach adopted by television stations when quotas were first introduced. Another avenue for broadcasters to minimise the effect and cost of a transmission quota is to make greater use of repeat programs in unpopular periods or time slots.

---

2 The transmission quota applies to programs broadcast between 6.00am and 12 midnight. The concession allows up to two hours of first release sports programming beyond midnight to count for quota purposes.

3 Includes at least 130 hours of children’s programs, 130 hours of pre-school children’s programs and at least around 200 hours of first release adult and children drama.
Adult Drama

As discussed in Chapter 3, in the absence of regulation, rational broadcasters would fill their programming schedule in a way that maximises profits. Programs with the greatest contribution to profits are chosen first. A program is included in the schedule only if its contribution to profits exceeds that of all the other programs available to the broadcaster that are not yet on the schedule. When regulation imposes the broadcasting of an otherwise unattractive program, the broadcaster attempts to minimise the impact by substituting that program for the least profitable of those already on the schedule. If Australian drama programs were being broadcast only because of the regulation, removal of the regulation would see those programs replaced by the next best imported contributor to profits not already on the schedule.

Australian television drama programs face a severe cost disadvantage compared with competitive imported drama programs. As the analysis in Chapter 8 demonstrated, some Australian drama programs are capable of attracting sufficiently large audiences to outweigh their relative cost disadvantage. In that analysis, it was shown that it is not uncommon for the best performing Australian drama programs to attract audiences of a size similar to those attracted by the best performing imported programs. Thus, while the cost disadvantage of the Australian programs renders them uncompetitive with the best rating imported programs, they are capable of attracting sufficiently large audiences to compete effectively with other imported drama.

In Chapter 8, it was demonstrated that, when compared with the average performance of the lowest rating quartile of imported drama programs, Australian drama programs on average can earn comparable profits. It was argued, however, that broadcasters face substantially more risk when choosing a domestic drama program compared with a competitive imported program.

The appeal of a program to audiences cannot be tested with certainty until after the program has been broadcast. However, knowledge of the appeal of a program to one audience can be used to assess the likely degree of appeal by another audience after allowing for known differences in preferences. Thus, knowledge of the degree of success of imported programs in their domestic markets can be used to reduce considerably the uncertainty about their likely appeal in the Australian market. The appeal of Australian produced programs, on the other hand, is untested and thus represents a much higher risk to the broadcaster.

Although historical data on the success rate of similar programs may be used to assess the average level of risk, a high degree of uncertainty is still attached to the likelihood of success for an individual program. Typically, each broadcaster would be involved only with one or a small number of projects at any one time. Thus, at the individual broadcaster level there is little capacity to spread the risk over a large number of projects with the expectation of achieving the average success rate. Faced with a high risk of failure, broadcasters may be unwilling to invest in domestic production when they can obtain similar rewards from less risky imported alternatives. The impact of the regulation in that situation is to force the broadcasters to invest in more risky programs they would otherwise be reluctant to.
While the cost of the regulation to an individual broadcaster unable to spread the risk over many projects may be substantial, the average cost of the regulation may be considerably smaller. Without the regulation, broadcasters would be indifferent to competitive imported and domestic programs with similar potential profits. Thus, the cost of the regulation may be viewed as the cost of equalising the risk associated with domestic and imported programs. The analysis in Chapter 8 may be used to estimate the likely order of magnitude of that cost.

In the period 1992-95, of the 14 Australian drama series shown for the first time on prime time television, seven were withdrawn during or at the end of their initial production run. The average size of the audience achieved by the seven unsuccessful series ranged from 187,000 to 345,000. Audiences of that size are comparable with the audiences achieved by low rating imported prime-time drama (see Chapter 8). Thus, the broadcasting of those series is unlikely to have had an advertising revenue effect on the broadcasters as both the series and the alternative imported programs had similar audience generating capacities. The Australian series, however, had a substantial cost disadvantage compared with alternative imported programs.

As indicated in Chapter 8, a new series typically involves a $2,500,000 investment for an initial production run of 13 hours of programming. An average lower rating imported drama program would cost approximately $30,000 per hour or a total of $390,000 for 13 hours\(^4\). Thus, for unsuccessful series, domestic broadcasters incur a loss of approximately $2,100,000 per series. Averaging the total loss for the seven ‘failed’ series over the period covered by the analysis, gives an annual cost of approximately $3,700,000 (say $4,000,000).

Also, as noted in Chapter 8, successful Australian series, on average, attract sufficiently large audiences to outweigh their cost disadvantage compared with imported programs. The longer the series run (some have been broadcast for four or more years), the more likely that they will contribute substantial profits to the broadcasters from domestic exhibition and overseas sales. While some series are highly successful, others progressing beyond the initial production run achieve much more modest results. Overall, however, indications are that on average successful Australian series make a net contribution to broadcasters’ profits. The extent of that profit is not known, but any amount in excess of that which could be earned from comparable imported substitutes should be set against the costs associated with unsuccessful series.

It is possible that the period for which data on success and failures of series are available is atypical. Some long-running series were being broadcast during that period and broadcasters may not have had the need to develop new programs at the same rate as in other periods. In that event, the development of series at the average rate of 3.5 per year may not be sufficient to generate enough programming for continuing compliance with the regulatory obligations. The median number of regularly broadcast prime-time Australian drama series on commercial television is currently four per week. Assuming a

---

\(^4\) The bottom of the range of imported program prices is adopted for this calculation. The figure is conservative and would tend to overstate slightly the cost disadvantage of domestic drama.
success rate of 50 per cent and a conservatively high average replacement rate of two series each year and two every second year, six new series per year would have to be developed to maintain programming at the current levels. Of these, three would not proceed beyond the initial production run. If their net cost to broadcasters (on the basis of the calculation above) were to be attributed to the regulation, the net impact would be of the order of $6,300,000.

Another approach to assess the likely cost attributable to the regulation is to identify the quantity of drama likely to be replaced by imported programs if the regulation was not in place. The number of hours of Australian drama required by a station to comply with its regulatory obligations depends on the composition of the programs it chooses to broadcast. Of the three Sydney commercial stations, TCN was able to comply with the Australian drama requirements by broadcasting 135.5 hours of programming in 1994 (the lowest number of hours for the three stations) and scoring 863.4 points. Of these, 23.5 hours were feature films whose production is not predicated by the regulation and whose broadcast would be unlikely to be affected by removal of the regulation. The remainder of 112 hours was made up principally of television drama, all of which could be potentially attributable to the regulation.

Taking the performance of TCN to be indicative of what is imposed by the drama quota, the aggregate drama requirement for the three stations could be satisfied with 336 hours of programming. The underlying assumption is that no television drama would be broadcast without the regulation. Assuming that both Australian drama and alternative imported programs are capable of generating similar sized audiences, the stations would incur additional program costs to broadcast Australian programs given by the difference in cost between domestic and imported drama. At an average cost of $130,000 per hour for domestic drama and $45,000 per hour for imported drama, the aggregate additional cost is about $28,500,000. This equates to approximately 1.3 per cent of the revenue of commercial television stations, or approximately 6 per cent of their expenditure on Australian programming.

Such an amount would be very much an upper limit of the cost imposition on broadcasters. Some Australian television drama programs are very popular with audiences and regularly attract sufficiently large audiences to outweigh their cost disadvantage vis-à-vis imported substitutes. Obviously such programs would be more attractive to broadcasters than imported programs and probably would continue to be broadcast even in the absence of the quota. The performance of two current Australian drama series, Blue Heelers and Home and Away is typical. They are among the top rating drama programs and are clearly more profitable to broadcasters than likely

---

5 It should be recalled that a points quota applies and that different programs attract different ‘format’ points.

6 A minimum annual score of 750 points and an annual average of 850 points over three years are required for compliance.

7 In 1993-94, commercial television stations earned a total of $2,147.3 million in revenue and spent $469.9 million on Australian programming (ABA 1995b).

8 Blue Heelers regularly achieves the highest audience among all drama programs except movies.
imported substitutes. Adjusting the cost estimates accordingly reduces the total annual cost likely to be attributable to the regulation to approximately $15,000,000.

What may be concluded from the above analysis, therefore, is that the additional cost imposed on broadcasters by the drama quota is at least equal to the value of uncompensated risk associated with Australian drama production. At most, the imposition is equal to the additional programming costs of supplying Australian drama that attracts similar audiences to that of readily available imported drama. Consequently, it is likely that the additional cost imposed by the Australian drama requirements is somewhere in the range of $4,000,000 to $15,000,000, equivalent to approximately 0.2 to 0.7 per cent of the stations total revenue, or 0.85 to 3.2 per cent of their expenditure on Australian programming.

Children’s Programs

The principal aspects of the children’s Australian programming requirements that impact on broadcasters are the pre-school (P) programs quota of 130 hours per year, the children (C) quota of 130 hours per year and the quotas for first release and for repeat children’s drama. Although restrictions also apply to advertising during children’s programming, those restrictions serve a wider purpose and apply to all children’s programs irrespective of their origin. Thus their impact should not be attributed to the Australian content regulation. Similarly, costs associated with program requirements that are not domestic content specific should not be attributed to the Australian content regulation.

Although a quota for P programs has applied since 1980, no conditions were placed on it in terms of domestic content until 1 January 1996. From that date, the 130 hours of P programs that stations are required to supply must be Australian. Compliance data are scarce. Indications are that stations, generally, have complied with the requirement and that the vast majority of the programming was Australian. For example, in 1992 each of the Sydney stations supplied 131 hours of P programs (ABA Trends & Issues, 1993b). A discussion paper released by the ABT in 1987 as part of its inquiry into children’s television standards states that P programs “have usually been Australian” and that two of the three commercial networks regularly presented one hour of P programs on weekdays. The third network presented the required half hour per day. Some stations also used small quantities of imported P programs (ABT 1991b, p. 347). The ABT’s reasons accompanying the release of the Children’s Television Standards 1989 noted that “all preschool programs currently broadcast are Australian and it was not considered necessary to include a quota for Australian programs”. Anecdotal information prior to the introduction of the requirement for P programs to be Australian suggested that, in recent times, one of the networks had begun to make regular use of an imported program.

As the requirement has been in place for some 15 years with little use of imported programming, it suggests that either suitable imported material may not be readily

---

9 In 1994, 115 hours of Home and Away and 45 hours of Blue Heelers were broadcast.
available or that there is little, if any, incentive for broadcasters to use imported material. The recent experimentation with imported programming by one of the networks may be an indication that the overseas supply and incentives situation may be changing. However, even if no Australian P programs were to be supplied without regulation, the cost of compliance with the requirement would be relatively small.

Although 130 hours of programming per year are required for compliance, the regulation allows the same material to be presented three times within a period of five years. Thus in the long term a station would be able to comply with the requirement with an average of approximately 44 hours of new material per year. The average cost per hour of Australian children’s programming is approximately $11,000 (BTCE, 1991). P programs, however, are typically low-cost productions and are likely to cost substantially less than the average which includes high cost children’s drama of up to $100,000 per hour. A conservative estimate would be $8,000 per hour. Imported P programs are also assumed to be available at very low prices of, say, $1,000 per hour. Thus the net additional estimated cost to screen Australian P programs would $7,000 per hour, or approximately $310,000 per network per annum. For the three networks the total additional cost would then be of the order of $930,000 (say $1,000,000) per annum.

The children’s programming obligation requires the broadcast of specific quantities of first release and repeat Australian drama and an overall transmission of 260 hours of Children C programs, half of which must be first release Australian. The children first release drama requirements were specified as a points score up to the end of 1995, but were essentially equivalent to 16 hours of programming. In 1996 the requirement increased to 24 hours and will increase further to 28 hours in 1997 and 32 hours in 1998 and subsequent years. The first release drama broadcast by stations will also count towards meeting the obligation for 130 hours of first release Australian C programs. From 1996 onwards, 8 hours of repeat drama is also required to be broadcast. A program may be shown up to three times in a period of five years. Repeats of Australian programs may be used to satisfy the overall obligation of 260 hours of C programs per year.

The two primary obligations likely to impose costs on broadcasters are the first release drama requirements and the first release C programs, including the drama requirements. In 1995, to comply with these requirements a station had to broadcast 16 hours of first release drama and 114 hours of other first release programming. Imported children’s programs are readily available at low cost. Cartoons are popular and unlikely to cost more than $2,000 per hour. Australian children’s programs, on the other hand, cost an average of $11,000 per hour. Drama is much more costly and averages at about $80,000 per hour. Using these figures, compliance with the requirement imposes a net estimated cost of approximately $2,300,000 on each national network10. Thus, the three network total for 1995 was about $6,800,000. In subsequent years, each hour of additional first release drama is likely to replace an hour of other first release C programs. The estimated net cost of the first release C programs and drama programs for 1995 and subsequent years is presented in table 9.1.

---

10 The dollar value was calculated from 114(11,000 - 2,000) + 16(80,000 - 2,000).
The requirement for 8 hours of repeat Australian children’s drama programs per annum, introduced as of 1 January 1996, is unlikely to add a substantial cost to broadcasters. First release and repeats rights for a program are typically purchased as a bundle. Therefore, broadcasters would have an incentive to use up their prepaid repeat rights for children’s drama to comply with their obligations for children’s programs. Given that the requirement is only one third of the requirement for first release drama annually they should have no difficulty in satisfying it. Indeed, the limited available information suggests that the stations had already been supplying repeat drama at a higher level than that set by the requirement in recent years.

**First Release Documentaries**

The first release Australian documentaries requirement became effective on 1 January 1996. There are no recent data available on the stations’ usage of first release documentaries in recent years. The latest available data relate to 1992 when no quota was in place. In that year the performance of the Sydney stations was substantially in excess of the newly introduced quota level (see Chapter 5). The performance suggests that the stations are responding to market incentives that favour the broadcast of those levels of Australian documentary. To the extent that the 1992 performance is typical, the stations should have little difficulty in complying with the quota and are unlikely to experience any substantial additional cost burden.

**Impact on Domestic and Imported Program Costs**

The requirements for exclusive use of Australian programs increases the demand of broadcasters for domestic programs and commensurately reduces their demand for imported programs. In such circumstances, economic theory leads to expectations of increased prices for domestic programs and reduced prices for imported programs. What needs to be assessed is the likely magnitude of those changes. As indicated above, compliance with the overall transmission quota is achieved through general programming and through compliance with specific programming requirements of the regulation. Thus, the general programming component of the transmission quota is likely to generate only minor distortions to the relative demand for Australian and imported programs. This also implies that any associated price effects will be minor. In contrast, the specific

---

**Table 9.1:** Estimated Cost of C Programs and Children’s Drama Obligations

<table>
<thead>
<tr>
<th>Year</th>
<th>C-Programs</th>
<th>Drama</th>
<th>Total (One Network)</th>
<th>Total (Three Networks)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>hours $'000</td>
<td>hours $'000</td>
<td>hours $'000*</td>
<td>hours $'000*</td>
</tr>
<tr>
<td>1995</td>
<td>114</td>
<td>1026</td>
<td>16</td>
<td>1248</td>
</tr>
<tr>
<td></td>
<td>1996</td>
<td>106</td>
<td>954</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>1997</td>
<td>102</td>
<td>918</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>1998+</td>
<td>17</td>
<td>882</td>
<td>32</td>
</tr>
</tbody>
</table>

* rounded to nearest 100
requirements may have more substantial effects. The magnitude of any such effects will depend on the magnitude of the associated change in demand generated by the regulation.

The largest impact on domestic prices is likely to result from the first release drama requirements for adult and children. As discussed above and in Chapter 8, in the absence of regulation, the combination of high cost and high risk associated with such programming would be likely to generate a substantially lower demand than that required by compliance with the quotas. In an unregulated market, Australian drama would not be able to command prices above the ruling price for imported programs with a similar audience generating capacity. At such prices, domestic production for a substantial number of the programs would not be profitable and would not be undertaken. By having to comply with the quota, however, broadcasters are forced to accept the locally competitive supply price. Comparisons of imported and domestic program costs suggest prices for domestic adult drama of the order of $100,000 to $150,000 per hour compared with prices for imported programs of the order of $30,000 to $60,000 per hour. Similar differentials are also likely to apply with regard to children’s programming.

While the requirement produces a substantial impact on domestic drama prices, its impact on imported program prices is unlikely to be substantial. Domestic drama is a small proportion (11.7 per cent) of all drama broadcast on Australian commercial television and 25.6 per of all prime time drama (ABA Update, 1994). Of course, the popularity and profitability of some Australian drama, particularly feature films and high rating series, would ensure their broadcast even without regulation. As noted above, 336 hours of television drama (excluding feature films) is indicative of the quantity required to satisfy the regulatory obligation. After allowing for high rating Australian series, the broadcast of which is likely to continue even without regulation, the amount of additional demand that may be attributable to the requirements reduces to approximately 180 hours, or just over 10 per cent of the 1,735 hours of imported prime time drama in 1992.

Removal of the prime time drama quota, however, will not automatically lead to a replacement of Australian drama by imported drama. Broadcasters may choose to use other types of programs (domestic and imported) to fill the ‘displaced’ drama slots. Indeed, there is some evidence that slots left vacant by Australian drama are regularly filled with programs other than imported drama. Table 9.2 provides details of the number of prime time drama programs on commercial networks during the 20 weekly survey periods covered by the data used for this analysis. The data indicate that the total number of drama programs shown on commercial networks at prime time does not appear to be fixed. Variations in the number of Australian drama programs are seldom accompanied by compensatory variations in the number of imported drama programs. Thus, in the absence of a quota for Australian drama, the probable increase in demand for imported drama is likely to be substantially less than 10 per cent of the level of demand prevailing in the current regulated environment. This suggests that the domestic drama quotas are likely to have a minor impact on the prices of imported drama programs.
Table 9.2: Number of Prime Time Drama Programs

<table>
<thead>
<tr>
<th>Period (Week Commencing)</th>
<th>No. of Drama Programs</th>
<th>No. of Imported Drama Programs</th>
<th>No. of Australian Drama Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 Feb 1994</td>
<td>20</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>13 Feb 1994</td>
<td>18</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td>20 Feb 1994</td>
<td>19</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>27 Feb 1994</td>
<td>19</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>10 July 1994</td>
<td>21</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>17 July 1994</td>
<td>21</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>24 July 1994</td>
<td>22</td>
<td>17</td>
<td>5</td>
</tr>
<tr>
<td>31 July 1994</td>
<td>19</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>30 Oct 1994</td>
<td>21</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>6 Nov 1994</td>
<td>22</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>13 Nov 1994</td>
<td>20</td>
<td>14</td>
<td>6</td>
</tr>
<tr>
<td>20 Nov 1994</td>
<td>19</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>12 Feb 1995</td>
<td>19</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>19 Feb 1995</td>
<td>22</td>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>26 Feb 1995</td>
<td>21</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td>5 Mar 1995</td>
<td>20</td>
<td>16</td>
<td>4</td>
</tr>
<tr>
<td>16 July 1995</td>
<td>20</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>23 July 1995</td>
<td>21</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td>30 July 1995</td>
<td>24</td>
<td>21</td>
<td>3</td>
</tr>
<tr>
<td>6 Aug 1995</td>
<td>20</td>
<td>17</td>
<td>3</td>
</tr>
</tbody>
</table>


**EMPLOYMENT EFFECTS**

The regulation is likely to have significant effects on employment, primarily in the program production industry. The main contributors to employment are the requirements for adult drama and children's drama. The production of first release children's programs is also likely to make a contribution to employment opportunities.

The indications from the above analysis are that some 180 hours of adult drama per year may be attributable to the regulation. That amount of programming is approximately equivalent to two series of one hour per week, and one of five half-hour episodes per week11. In addition, 72 hours of children's drama (rising gradually to 96 hours by 1998) are also attributable to the regulation. The adult drama hours alone represent approximately 33 per cent of the total first release Australian adult drama on commercial television in 1994. When combined with the output of children's drama, 41 per cent of first release drama hours on commercial television in 1994 is attributable to the regulation.

---

11 This assumes production of 40 weeks of programming per year.
After allowing for first release children’s drama, compliance with the children’s C program requirements necessitate the production of 342 hours (114 hours per network) of other first release Australian children’s programs. A wide range of programs is used to comply with these requirements. Most of them, however, are much less labour intensive than drama. Nonetheless, they too would make a modest contribution to employment.

On this basis alone, the regulation of Australian content on commercial television provides a substantial level of assistance to the employment of production personnel, technicians, actors, writers and other creative personnel. It also helps generate a larger pool of trained personnel whose skills can be used in the production of feature films, advertisements, etc. In that sense, then, the regulation is also indirectly assisting those other sectors of the industry.

Employment in television program production, of course, is not costless. At least some of the individuals who gain employment from the effects of the regulation are withdrawn from other productive activities in the economy. The value of their employment in those other activities represents the opportunity cost of employing them in the program production industry. For others who may have been partly employed or unemployed in the absence of the regulation, there is also an opportunity cost equal to at least the leisure value of their time.

**REGULATORY DEFINITION OF ‘AUSTRALIAN’**

The regulation sets out several specific nationality tests to determine whether a program meets the eligibility criteria for compliance with domestic quotas. A program is considered Australian if it is produced under an official co-production agreement with another country or satisfies each of the following criteria (Australian Content Standard):

- it is produced by an Australian;
- either the director or the writer is Australian;
- not less than 50 per cent of the leading actors or presenters are Australian (in the case of drama, not less than 75 per cent of the major supporting cast are Australian);
- the program is produced and post-produced in Australia.

---

12 Estimates of production personnel resources published by the ABT (1991a Vol. 2) indicate that one hour of television drama utilises 4,500 to 5,500 hours of production personnel while one hour of studio produced children’s programs relying on few on-screen people utilise an average of 125 hours of production personnel.

13 Australian status may also be conferred by a ministerial certificate issued under Division10BA of Part III of the Income Tax Assessment Act 1936 with eligibility requirements similar to those detailed here.
If a program is comprised of separate segments, only those segments complying with the above criteria are eligible for Australian status for regulatory requirements.

News, current affairs or sports programs enjoy some exemptions from the above criteria. Overseas footage does not disqualify eligibility of the program nor is Australian post production of overseas footage mandatory if it is impractical.

Acheson and Maule (1990) highlight the anomalies that may arise in the application of a set of nationality criteria (in their case, Canadian) such as the above. Paraphrasing their example, it is possible for a program to be considered Australian even if its subject matter may not be (e.g. a Canadian artist). On the other hand, a program on an Australian artist produced by a non-Australian but meeting all the other eligibility requirements would not qualify. They also point out that some programs which satisfy the nationality criteria in the Canadian scheme,

“do so by being shot in Canadian locales which are disguised to appear as American or European cities, by employing Canadian actors talking with mid-Atlantic accents, and by developing stories which relate more to the history and culture of other countries.” (p. 286)

It has proved to be virtually impossible to develop a set of objective eligibility criteria to define domesticity of a program that is not subject to anomalies. Where financial incentives, such as potential overseas sales for domestic programs, are present, it is highly likely that market operators will seek to exploit the anomalies. Consequently, the definition may distort market activities. In addition, exploitation of the anomalies inherent in the definition undermines the cultural objectives of the regulation and reduces its effectiveness.

OTHER IMPACTS

In addition to the effects on programming costs and employment generation, a number of less important effects are associated with the regulation.

The regulation is administered by the Australian Broadcasting Authority as part of its overall function of regulating the television industry. The ABA and its predecessors have been involved in several lengthy inquiries on the regulation, all of which were publicly funded. The ABA also incurs costs for the continuing administration and monitoring of compliance with the regulation. Primarily, administration of the regulation is the responsibility of the Standards Section of the ABA (one of 14 sections). However, its functions are wider and include administration of other program standards. The ABA’s total operating expenditure for 1994-95 was some $15 million (ABA 1995c). Assuming that the expenditure was evenly distributed among the operating sections of the ABA, and that at least 20 per cent of the section’s resources were devoted to the administration of other standards, implies expenditure of less than $1,000,000 on the administration of Australian content regulation.
Broadcasters would also incur administrative costs in complying with the various elements of the regulation. Each station is required to keep separate records of its performance and prepare appropriate reports to the ABA. There are no data on which to base an estimate. Apart from the principal stations in each of the three major networks, it is unlikely that administrative costs associated with the regulation would be more than a few thousand dollars per station. Assuming an average expenditure of the order of $25,000 per station, the total cost facing the 44 commercial stations operating in Australia might possibly be around $1,100,000 per annum. Thus, the total administrative costs incurred by the ABA and the stations could be roughly of the order of $2,000,000 per annum.

The regulation may have other implications for programming and other aspects of the television industry. The imposition of higher cost burdens on broadcasters to comply with the regulation may limit the capacity to fund non-regulated programs, both domestic and imported. For example, stations may make greater use of repeats, reduce the level of production inputs to non-regulated programs or purchase lower cost programs from local and overseas suppliers. Thus the character and quality of the non-regulated programs may decline to release resources for compliance with the regulation. In either case, employment in non-regulated programs could decline and might offset at least some of the employment gains in the regulated sectors. Overall audience satisfaction may also decline depending on the relative intensity of demand for regulated and non-regulated programs.

GAINERS AND LOSERS

A regulatory instrument that alters market behaviour will necessarily lead to outcomes that involve both gainers and losers. The gainers are those who gain some additional benefit from the altered behaviour and the losers are those who will bear the burden of the change with increased costs or other disbenefit.

To the extent that it is effective in altering the market behaviour of broadcasters, Australian content regulation of commercial television contributes to increased demand for domestic programs and indirectly, for the various inputs to the production of those programs. The inputs include actors, producers, directors, camera operators, technicians and others whose services are employed in the production of programs. Production companies and their shareholders will also benefit from the increased demand for domestic programs. As noted by Globerman (1983), in the short term the increased demand will generate additional income for all the inputs of production. In the longer term, however, the factors likely to benefit most are those with inelastic supply curves.

Viewers are also likely to gain a net benefit from the regulation. The discussion in Chapter 3 highlighted the bias of broadcasters against high cost programs, including some types of domestic programs such as drama. To the extent that the regulation corrects for this bias, viewers are likely to gain from the availability of a greater diversity of programs and the consequential better matching of programs and viewer preferences. The widespread consumption of television will ensure that any resultant benefits are also
widespread. Increased diversity will benefit both heavy and more selective viewers as both can potentially gain higher benefits from the time they spend viewing.

Whether viewers derive greater private benefits from domestic than from imported drama programs is difficult to ascertain in the absence of a price mechanism. Audience rating data offer only a partial indication of relative preferences. They show that both domestic and imported drama programs tend to be popular with audiences and, on average, attract similar size audiences. Consequently, it is not possible to say which of the two provides a greater benefit to viewers without some knowledge on viewers’ intensity of preferences.

The survey results analysed in Chapter 7 shed some light in this regard. While they show widespread support for regulation of domestic content, the intensity of preference for additional domestic programming varies among the categories tested. Those with the greatest intensity of preference were children’s and documentary programs. Intensity of preference for increased levels of domestic drama programs was relatively weak. The data thus suggest that viewers are unlikely to gain substantial net additional private benefits from the replacement of imported drama with domestic drama. However, consumption of domestic drama appears to provide external benefits to society in general. In that sense, therefore, viewers also gain from those external benefits and may derive a net gain in benefits.

Although some domestic programs currently enjoy a high level of audience appeal, not all domestic programs do so, nor have they always done so. Audience preferences for both imported and domestic programs may change rapidly. In contrast, quota mechanisms of the kind used for Australian content regulation are cumbersome and not conducive to rapid change. There is always the risk, therefore, that over time large differences may develop between viewer preferences and the programming determined by the quotas. In such an eventuality, viewers may well be losers rather than winners.

Children are likely to be major beneficiaries of the elements of the regulation relating to children’s programs. The regulation ensures the provision of programs not favoured by broadcasters because of their low potential to generate advertising revenue. Such programs, however, appear to be highly desirable. Respondents to the survey registered the highest intensity of preference for them. Thus, for adults at least, the provision of domestic children’s programming is highly valued.

The imposition of quotas for domestic programming, particularly those applying to specific types of programs such as drama and children’s programs, increases the demand for domestic programs and thus bids up the price paid by stations. It also bids up the prices of the inputs to the production of programs. Some of the rents accruing from the increased demand is likely to be retained by the production companies and their shareholders. In the long term, however, scarce production factors (creative or technical) are also likely to benefit by bidding away some of the rents initially captured by domestic producers.

The increased revenues accruing to program producers and other production factors primarily come from broadcasters and advertisers, and indirectly from consumers.
Broadcasters will incur increased programming costs as well as administrative costs to comply with the regulation. They will also incur a loss of advertising revenue if the audiences of regulated programs attract smaller audiences (as may be the case with children’s programs) or audiences with characteristics that are valued less by advertisers than the audiences of alternative imported programs. Since commercial television operators are beneficiaries of a licensing regime that restricts entry to the industry and enables them to earn above average rates of return on their assets (BTCE 1996), even after the cost of the regulation, their higher cost of programming should not create undue concern. Indeed, the imposition of domestic content regulation was partly justified as a quid pro quo for the privileges conferred by the licensing regime. Such a factor would have been taken into account by those investing in the industry. It nonetheless does raise some concern as to whether the regulation of domestic content is an efficient way of extracting scarcity rents created by the licensing regime.

The partial recoupment of higher programming costs through higher advertising charges will make television advertising more expensive relative to other forms of advertising and will thus reduce its demand. The extent to which other media benefit is determined by cross elasticities of demand. The higher costs faced by advertisers are also likely to be passed on, at least partly, to consumers in the form of higher prices for advertised goods and services. The incidence on consumers will depend on their consumption patterns of advertised products or services.

Reduced demand for imported programs may lead to a transfer of income from foreign producers to domestic producers and other factors of domestic production. However the effect is unlikely to be substantial because of the prevailing conditions in the international trade of television programs. Compliance with domestic quotas is unlikely to affect demand for high rating imported programs. They will continue to be highly sought by broadcasters. There are some indications that the main suppliers of international programs may have been operating as a sellers’ cartel (Hoskins, Mirus and Rozeboom 1989) and that the ruling practice is for studios to sell the broadcast rights for bundles of programs rather than singly. Thus prices paid for imported program rights are unlikely to decline substantially by the replacement of less appealing imported programs with domestic substitutes.

**EFFICIENCY OF THE REGULATION**

By altering the behaviour of broadcasters, the regulation imposes both costs and benefits to different groups in society. If the resultant benefits exceed the costs, the regulation produces a net benefit to society and is said to be efficient. A net increase in benefits, however, is the minimum prerequisite for regulation. It is always necessary to establish that the mechanism adopted is the most efficient for the purpose. Obviously, a mechanism delivering a higher level of net benefits (by reducing the costs or increasing the benefits or both) would improve society’s welfare and would be more desirable.

The highly prescriptive nature of some of the provisions of the current regulation may hinder the maximisation of net benefits. The likelihood of that occurring is greater for instruments that mandate the delivery of given quantities of specific programs
irrespective of their cost, or irrespective of the intensity of demand that viewers may have for other programs.

The setting of specific requirements for certain types of programs is partially aimed at correcting biases of broadcasters against high cost programs. They are also aimed at correcting the lack of consideration by broadcasters of the external social benefits that may be derived from culturally desirable programs. The absence of a price mechanism to establish the intensity of viewers’ preferences can lead to the undersupply of some program types. Broadcasters earn revenue from the sale of access to audiences to advertisers and will attempt to select programs that maximise audiences for any given programming cost. Audiences can only choose programs from what is on offer on the competing stations available to them and may make non-optimal choices because they lack sufficient information on the desirability of programs not on offer.

The results of the survey discussed in Chapter 7 indicate broad community support for Australian programming. Overall, the estimated social benefits derived from Australian programming appears to be commensurate with the cost of delivering the programs. In that sense, the regulation may be seen as efficient and desirable in delivering benefits that would otherwise be lost to society. The survey, however, also indicated potential improvement in welfare by the provision of a different mix of programs to that mandated by the regulation.

One of the main problems associated with the current regulatory arrangements is the rigid nature of quota mechanisms for specific programs. Such quotas distort the decision making process of broadcasters by limiting their capacity to respond to changes in audience preferences and relative prices of different programs. In the absence of incentives for the mandated programs, broadcasters will supply programs specifically designed to comply with the quotas at least cost to them. As a result, the intentions of the quotas may be undermined and welfare may not be maximised. This is likely to have been the cause of the failure of adult drama quotas to encourage the supply of higher cost programs.

To the extent that program quotas increase stations’ demand for specific programs, they provide assistance to particular activities in preference to others which may be at least as valuable to society. For example, the adult drama quotas may distort the amount of resources devoted to the production of television drama at the expense of other culturally relevant activities such as feature films, theatre, social documentaries and other forms of audio-visual products. By increasing demand for the same resources, the assistance is likely to drive up their price and make it more difficult for other activities to compete. The quotas may also be inequitable to commercial broadcasters because competing activities such as cinemas, video hire outlets and subscription television services are not subject to the same domestic content requirements.

Another problem with the current arrangements is that while they deliver substantial assistance to some television production activities at the expense of others, the level of assistance is difficult to measure and is non-transparent. The rigid nature of the mechanisms means that the level of assistance provided is likely to be affected by
changes in the competitive position of other activities. Such changes may lead to unintended increases or decreases in assistance to television production.

Because of its dependency on highly specific regulatory mechanisms, the current regulatory approach may not be sustainable in a period of rapid technological development. Recent developments in information and communications technologies practically eliminate the earlier spectrum constraints limiting the expansion of services, thus opening up the scope for potential provision of hundreds of services (BTCE 1994). Indeed, some new services are already in operation and compete directly with free-to-air television for audiences and program material.

Among the new services already introduced only subscription television is subject to a form of Australian content regulation. In that regard licensed pay television services must ensure that 10 per cent of programming expenditure on channels devoted predominantly to drama is spent on new Australian drama programs (Broadcasting Services Act 1992, S (103)). Narrowcasting services and other specialised audio-visual services are not subject to Australian programming regulation. Nor are any services that may be broadcast by international satellites that are beyond the reach of Australian regulation.

The audience for traditional free-to-air television services undoubtedly will be eroded as demand for new and emerging services grows. In the United States, for example, where they have been established for some years, pay television services attract more than 30 per cent of all television audiences (National Cable Television Association 1993). Erosion of their audience will reduce both the audience influence and advertising revenue of commercial free-to-air television operators. In turn, reduced advertising revenue will weaken the capacity of operators to sustain the cost of compliance with the Australian programming regulation.

In any event, as the number and variety of services expands, continued application of the current regulatory approach will mean that only a diminishing proportion of the available services will be subject to the Australian content regulation. This will not only weaken the effectiveness of the regulation, but will also distort industry structure and competition among the available services. Consequently, if the consumption of Australian programming continues to be a desirable community goal, it may become necessary to develop alternative support mechanisms to ensure its availability.

A mechanism that has found some favour in other countries not dependent on quotas for the delivery of specific programming outputs is direct assistance to their production. Production subsidies may be targeted to produce specific outputs, such as the type of high cost drama that current instruments have failed to deliver. The amount of assistance provided would be transparent, and could be altered so as to ensure its effectiveness in changing circumstances. It could also be altered in response to changing audience preferences. Another advantage is that it could be made neutral of the delivery mechanisms for audio-visual services.
CONCLUSION

While some of the components of Australian content regulation for television programs have a considerable impact on the nature and diversity of commercial television programming, other components have little effect. Perhaps the component with the least impact on the nature and diversity of programming, and on the behaviour of broadcasters, is the transmission quota. The impact of the transmission quota has been minimal. The increased quota levels of 55 per cent of programming to apply from 1998 will induce only a small change to the programming output of two of the networks and minimal additional costs. Possibly the greatest impact of the quota on broadcasters is a small reduction in their flexibility to schedule programs.

In contrast to the transmission quota, the children’s programming and adult drama requirements have a substantial influence on programming and on programming cost structures. Without the requirements, children’s programming on commercial television would fall considerably below current levels. Domestic adult drama also would be likely to fall below current levels. Both requirements impose additional costs on programming that broadcasters would have an incentive to avoid in the absence of the regulation.

By increasing the demand for domestic programming, the regulation provides substantial benefits to the various factors of production, including actors, producers, directors and other skilled and unskilled individuals employed in the production processes. Production companies may also benefit from the increased demand. Viewers, too, are likely to gain from increased diversity of programs and from any higher intensity of preference they may have for domestic programs. Of course, society in general will gain from any external benefit generated by higher consumption of domestic programs. The increased programming costs associated with the regulation fall directly on broadcasters and advertisers, and indirectly on consumers of advertised products and services.

The rigid nature of the quotas distorts the decision making process of broadcasters and limits their capacity to respond to changes in audience preferences and relative prices of programs. Their sustainability in a period of rapid technological change is also doubtful. Given that the perceived value of the derived social benefits from the regulation is approximately commensurate with the associated costs, other more efficient and more sustainable mechanisms for securing the benefits may have to be pursued by policy makers.

---

14 Any viewer with a higher preference for imported programs would suffer a loss of utility from increased domestic programming.
CHAPTER 10 CONCLUSIONS AND POLICY IMPLICATIONS

INTRODUCTION

The analysis and discussion in the preceding chapters was aimed at identifying, collecting and examining individually the various elements of a detailed assessment of the effectiveness and efficiency of the Australian content regulation for commercial television programming. The purpose of this chapter is to bring the various elements together and draw some overall conclusions.

The regulation of domestic content of television programming aims to safeguard national culture and identity from actual or potential erosion that may result from over-consumption of imported programs. The content of no other popular information or entertainment medium is regulated in the same manner or to the same degree. So what are the reasons for the singular treatment of commercial television? Within the regulation itself, why are some program genres regulated more strictly than others? These are two of the issues to be addressed from the point of view of the validity and appropriateness of the regulatory response to the identified needs for intervention.

The chapter also devotes some attention to the identification of potential improvements to the regulation. The approach taken focuses mainly on discussion of options that, in the light of the current environment, may lead to either the same outcome at lower cost or a better outcome for the same cost, or that are likely to ensue from current and expected technological developments.

SINGULAR TREATMENT OF COMMERCIAL TELEVISION

The supply of programs to audiences is an intermediate activity in the creation of the final product of providing access to audiences to advertisers. From the viewers' point of view, commercial television delivers two products, programs and advertising. Both are consumed by the audience at a cost equal to the value of alternative foregone activities.

Although television viewing is unique in certain respects, the products it delivers to audiences have many attributes in common with those of other popular media. The closest substitutes to commercial television are non-advertiser funded television services including national free-to-air services and pay television. Other less close substitutes include, video hire, cinemas, magazines, newspapers, radio, computer based information and entertainment (e.g. video games and CDROM). They all provide information and entertainment to consumers and most of them sell advertising services. None of them is regulated to the same extent as commercial television and most of them are not subject to domestic content regulation. Since they all supply similar products, what are the distinct differences of television that may require special regulation?
Television is generally accepted as being an influential medium with the capacity to alter audience perceptions. For example, advertisers pay large amounts to broadcast their messages both to inform and influence audiences. Indeed in Australia’s competitive advertising market, television is the advertising medium that attracts the largest share of national advertising revenue and the second largest share of total (i.e. national and non-national) advertising revenue (CEASA 1996). Assuming that advertisers are rational, if television was ineffective, they would not continue to use it to the extent that they do. By extension, programs are also influential but in an indirect way. The ‘messages’ contained in programs are not as prominent and as direct as those of advertising. To some extent the influence of the programs has been recognised and accepted by advertisers who are prepared to pay a premium to have their advertising associated with particular programs (e.g. advertisements for travel products associated with travel programs). However, the extent to which television programs influence attitudes and behaviour has not been clearly established. In any event, the same reasons could be used to establish that other media are also influential.

As discussed in Chapter 4, television operators are biased against programs that appeal to relatively small audiences and high cost programs. Also the value of the external cultural benefits derived by society is not a factor considered in their programming decisions. These inherent characteristics of television programming may lead to outcomes that do not maximise social welfare. Thus, the existence of some form of market failure as a necessary pre-condition for regulatory intervention can be readily demonstrated in the case of television. The same is not the case for most other media (except, perhaps commercial free-to-air radio services).

One aspect of television that distinguishes it from other media is its ready accessibility in almost every home at a virtually negligible direct cost. It is consumed in relatively large quantities (more than three hours per day on average) making it the most important leisure activity for a large proportion of the population. Thus, to the extent that external cultural benefits accrue from the consumption of some programs, the accumulation of those benefits can be achieved more readily with television than with other media.

**DISSIMILAR TREATMENT OF PROGRAMS**

The survey described in Chapter 7 found that the most popular, regularly watched programs were news and current affairs (80.8 per cent of respondents), movies (46.5 per cent), documentaries (41.2 per cent), sports (38.9 per cent), and serials and series (23.0 per cent).

The degree of likely influence of programs watched regularly varies. Unlike other media, such as newspapers, there is no established tradition in television for editorials or ‘columns’ giving views about social issues of interest to the community. Nonetheless, news and current affairs programs and documentaries may give more prominence to particular stories. In that sense, they may give a distorted view of reality. However, in a system with substantial competition for audiences, there would appear to be little scope for operators to stray too far from objective reporting of facts. In any event, the central
element here is objectivity in reporting which could be equally distorted in domestic or imported news services. Thus, if regulation is necessary, it should be applied in terms of objectivity of reporting rather than national origin. Additionally, the strong demand for domestic news and current affairs and sports programs provides them with substantial protection from imported programs.

**Adult Drama**

The area of programming dominated by imported programs is entertainment in the form of movies and serialised drama. Such programming is used for more than 37% of transmission time (6.00 am to midnight) on metropolitan commercial stations. Even with regulation, only a small amount of drama is of domestic origin. In terms of quantity, at least, this implies that domestic programs other than drama are the main countervailing force against the perceived negative influence of imported programs.

Drama, however, figures large in all discussions of Australian content regulation. The ABT believed that drama was “fundamentally important”. For example, in the discussion paper prepared for the inquiry preceding the 1990 changes to the regulatory requirements, the ABT noted:

> Drama occupies more of prime time television than any other program type and regularly accounts for about 60 percent of the most watched television programs. Awareness of television’s social effects including that of the level of imported drama on Australian cultural development has given rise to arguments that commercial television be regulated in some form. These social and cultural concerns have been persistently expressed since before television was introduced and are matters which successive Governments have responded to with legislative and regulatory action. (ABT 1988a, p. 61).

Essentially the argument reduces to assertions that drama is substantially more important to cultural development than are other program genres. Consequently, the influence of the large proportion of imported drama broadcast at times when audiences are largest, is not easily counteracted even by large quantities of non-drama domestic programs. Thus, it is argued that a significant amount of domestic prime-time drama is essential to cultural development.

The bias of television operators against high cost programs is particularly relevant to domestic drama. Currently, drama is the highest cost form of domestic programming. Thus, if the argument that domestic drama is an essential element of cultural development is accepted, then regulation may be necessary to ensure that at least a representative quantity is delivered to audiences. To the extent that employment objectives are also being pursued by the regulation, then drama, as the most labour intensive form of program production, may also be expected to be prominent in terms of government intervention.
Although different mechanisms are used for the purpose, government intervention is a consistent characteristic of the domestic production of other forms of drama. While there are no domestic content quotas set for cinemas and video stores, production of feature films is directly supported by government funding mechanisms. Financial support is also available to telemovies and television mini-series (in addition to the television drama quotas), but not to serials and series. Production of higher cost drama is supported financially and with quotas, while lower cost drama receives quota assistance only. Within the quota, differential levels of assistance are accorded by the use of different format factors\(^1\) to calculate the points score for the various types of drama.

**Children’s Programs**

Protection of the interests of children with regard to television programming has always been an issue attracting considerable attention in consideration of the function of television in society. According to the ABT, “regulatory action for children’s television has essentially been a response to lack of quality, age specific, television programs for children and the need to protect their interests” (ABT 1987). Generally, there is widespread agreement that the needs of children deserve special consideration. The survey conducted as part of this study found that 57.7 per cent of Australians were willing to allocate some additional expenditure to children’s programs. The only program category attracting some support from a higher proportion of the community (62.0 per cent) was documentaries. However, the intensity of support for children’s programs was slightly higher than that for documentaries.

The issue of children’s programming is more complex than for other programs. The need to protect children extends beyond programs to advertising where the regulators impose controls on both the type and quantity of advertising during children’s programs. Programs for pre-school children are not permitted to carry advertising at all. These restrictions exacerbate the impact of the regulation on broadcasters. Even if advertising restrictions during children’s programs were not more stringent than those at other times, the very nature of children’s programs makes them minority appeal programs, against which broadcasters have considerable bias.

The twin effects of minority audiences and stringent advertising restrictions make children’s programs unappealing to commercial broadcasters. However, the high intensity of demand for such programs would be likely to make them appealing to pay television services offering a bundle of channels to subscribers. In the long run, the expected expansion of television services is likely to create opportunities for children’s television services. In the meantime while free-to-air television services remain the main medium for the supply of television programs, it is unlikely that children’s programs would be supplied in significant quantities without regulatory or direct intervention in the market.

\(^1\) The format factors reflect broad differentials in the average production costs of the various forms of drama.
Children’s drama is perhaps the least attractive type of programming to free-to-air commercial broadcasters. It is virtually as expensive to produce as adult drama, but does not have the wide audience appeal of the latter. Coupled with the advertising restrictions, the cost of drama represents a large disincentive to broadcasters. Faced with substantial disincentives, broadcasters will be concerned primarily to minimise the cost of compliance with the regulation. Under such circumstances, the prescription of fixed quantities of drama means that costs can only be restrained through reduction of production factors with potentially severe impact on quality. Some of the cost disadvantage may also be offset by potential export earnings generated by the relatively short supply of children’s programming throughout the world.

Although not as severe as those of children’s drama, there are similar disincentives for other children’s programs. The lower severity of the disincentives is due to the lower cost of non-drama programs. All the other factors associated with the disincentive are essentially the same. Thus, in an unregulated environment, children’s programs would be unlikely to retain their high level of representation on the programming schedules of commercial television operators.

**Documentaries**

Prior to the 1996 changes to the provisions of the domestic content regulation, there were no specific requirements for Australian documentaries. Although documentaries could gain points for the now discontinued diversity score, their inclusion in a broadcaster’s program schedule was optional as several program categories were eligible for points. However, unlike other programs in the diversity categories, documentaries are eligible for financial assistance by the Australian Film Finance Corporation.

The reasons advanced for the support of documentaries are similar to those for adult drama including cultural importance and under-representation on programming schedules. Documentaries are also costly to produce. Furthermore, the one-off nature of documentaries irrespective of national origin, renders them unappealing to broadcasters. A drama series, for example, offers opportunities for the building up of audience loyalty over time and for promotion and scheduling economies. On the other hand, documentary series in which each program deals with a different issue offer little scope for the retention of audience loyalty. Indeed, each program may appeal to different audiences with different interests and may have to be promoted separately. In any event, the one-off nature of documentaries means that cohesive series are difficult to assemble for regular scheduling.

The survey conducted for this study found extensive support for additional Australian documentaries. Over 62 per cent of people (the highest proportion of any of the categories tested) indicated a willingness to support additional expenditure for documentaries. The average intensity of demand for increased expenditure on documentaries was the second highest recorded in the survey, and was only slightly lower than for children’s programming.
The ABA’s decision to set specific quota levels for documentaries provided few details of its motivating factors. As noted in earlier discussions, the quota levels for documentaries set by the ABA are likely to have little if any effect on the delivery of domestic documentaries. In recent years, the stations have been supplying higher quantities than that now prescribed by the requirement. In choosing a relatively low level, the ABA appears to be following the precedent set in other areas of programming. The tendency has been for the initial quotas to be set at levels below historical performance and gradually to increase them over time.

**Program Diversity**

One of the prime potential justifications for intervention in television programming is the tendency of commercial operators to supply a less than desirable level of program diversity. The underlying factors to this tendency were discussed in detail in Chapter 4. Essentially, they revolve around the fact that program duplication is more profitable to a broadcaster if, after adjusting for differences in program costs, the share of audience attracted with a duplicate program exceeds that attracted by a different type of program.

The tendency for program duplication by Australian commercial television stations has received some analytical attention in a report by the BTCE (1991). The report examined the changes in the level of diversity of programming supplied by commercial stations when additional commercial stations are introduced in a television market. The two cases that were analysed involved the addition of one station in a market where two were already operating (Perth), and the addition of two stations where only one commercial television station was previously in place (Canberra). The study defined diversity on the basis of the number of different types of programs available to viewers. It found that the addition of two stations increased the maximum weekly diversity index from 1.00 to 2.06 and that a change from two to three stations increased the weekly index from 1.63 to 2.06. By way of comparison, two stations showing different types of programs in each time slot would have achieved an index of 2.00. The BTCE report also noted the presence of the national broadcaster (ABC) in a television market provided an “important additional level of diversity to viewers” (p. 116). Similar results were reported in an earlier econometric study of television viewing (Withers 1985).

**DESIRABILITY OF REGULATION**

Regulation or other market intervention is desirable only if it leads to an improvement in social welfare or if it achieves some socially desirable redistribution of community resources. The premise of this study has been that the primary aim of the regulation of domestic content of television is to improve efficiency rather than pursue redistributional objectives. In such circumstances, the pre-conditions for justified market intervention are the existence of market failure and the delivery of benefits that exceed the cost of intervention.
The existence of market failure and bias in the provision of television programming was discussed in Chapter 4. There, it was shown that the advertiser financed and restricted entry characteristics of commercial television act to bias stations against high cost programs and programs with small audiences. It was also shown that, because broadcasters cannot capture the value of external benefits, such as the cultural benefits associated with domestic programming, the supply of those programs is less than that likely to maximise social welfare.

The survey conducted for this study and discussed in Chapters 6 and 7, highlighted two important issues. First, it demonstrated that a large majority of Australians accept the existence of external cultural benefits from consumption of Australian television programs. Second, the valuation of those benefits by the community was found to be at least commensurate with the cost of supplying domestic programs. In other words, the survey indicates that social welfare is unlikely to be reduced by the regulation and may well be increased. The survey also found a moderate level of demand for increased supply of domestic programming.

On this basis, then, both pre-conditions for government intervention in the market for free-to-air television programs are satisfied. This means that the regulation is desirable on efficiency grounds in the sense that its benefits to society exceed its costs. However, social welfare may not necessarily be maximised by the regulatory instruments that are being used to correct the identified market failure.

REGULATION IN A CHANGING ENVIRONMENT

Another potential problem arises from the current environment of rapid technological change in all communication industries including television. In such circumstances, the effectiveness and efficiency of regulatory instruments that are not technology neutral are likely to face serious erosion. Historically, the broadcasting and communications industries supplied distinct services which facilitated the application of different regulation. With changing technology, the same service can now be provided by a variety of means (e.g. over the air broadcasting, cable, microwave, satellite, etc.) The Broadcasting Services Act 1992 attempted to circumvent the effects of technological change by defining broadcasting as services to the general public independently of the means of delivery. The Act also defines ‘narrowcasting’ as services to specific interest groups (geographic or area of interest). However, the likely segmentation of audiences by the evolution of a multitude of services will mean that services will become increasingly specialised and the distinction between broadcasting and narrowcasting will become increasingly blurred. In such a situation, the effectiveness of regulation designed for services reaching very large audiences is likely to be substantially weakened.

Technological change is also likely to generate new services that may be beyond the reach of domestic regulation. Satellite services originating overseas can be accessed in Australia. Similarly, video images and entertainment services are accessible through the ‘Internet’, and may originate anywhere in the world. Thus, the use of domestic regulation to achieve social objectives will become less and less effective over time, since
it can be applied only to services originating in areas within the jurisdiction of domestic governments. In any event, the nature of services will also change and may weaken the effectiveness of traditional mechanisms.

IMPROVING THE EFFICIENCY OF THE CURRENT REGULATION

The Transmission Quota

Domestic content quotas have often been cited as a quid pro quo for restricted licensing of entry to the industry (BTCE 1991). The cost of meeting the quota is essentially a form of non-transparent tax aimed at collecting at least part of the monopoly rents that licensing confers on established broadcasters. As a tax instrument the quotas are cumbersome and costly to administer.

Traditionally, stations have had little if any difficulty in meeting their transmission quota obligations. Even during the period when the points system (rather than quantity quotas) was in place, and stations could earn the necessary points easily, Australian programs rarely fell below 50 per cent of all programs. The natural protection of news and current affairs and sports programs, coupled with their popularity, is sufficient to ensure that a large proportion of all programs are of domestic origin. The appeal of some of the other categories of programs, including light entertainment, panel shows, and game shows, is also partly dependent on their domestic character.

In addition to the naturally protected programs, special domestic quotas ensure the supply of specific quantities of programs such as adult and children’s drama, children’s programs and documentaries. The aggregate supply of domestic programs subject to special quotas and naturally protected programs is sufficient to approximate the mandated transmission quota level. In such circumstances, it is uncertain whether much value is gained by mandating a separate transmission quota. In any event, under the current arrangements, a shortfall in a station’s performance can be made up by screening repeats of previously-broadcast programs or specially made low-cost, low-quality, ‘quota-quickies’ at times when audiences are small. Also, it could be possible that the use of repeats or quota-quickies to comply with the regulation may reduce social welfare by delivering domestic programs that viewers value less than imported substitutes.

By specifying that a proportion of all programs has to be domestic in origin, the transmission quota may be partly inconsistent with the cultural objective of the regulation. There is an inbuilt incentive for broadcasters to minimise the cost of their quota obligations by favouring low-cost programs, some of which at least may be of doubtful cultural value. The ABCB lamented this tendency regularly in its annual reports when commenting on the operation of early regulatory schemes. Improved targeting of the quota may be possible by modifying the current television station licensing fee arrangements. The nominal licence fee rate payable by stations could be increased to reflect the current cost of the quota obligations. The actual amount of licence fees payable by stations could then be discounted on the basis of a schedule of domestic
content levels. It would also be possible to target the discount to the broadcasting of specific types or quality of programs by the application of differential discount rates.

It may also be possible to improve the efficiency of transmission quotas by making them tradeable between stations in the same service area. Tradeable quotas have been recommended, and have been applied with some success, as efficient instruments of environmental regulation (Hahn 1989, Tie ten berg 1990) in pursuit of objectives that are conceptually similar to those of domestic content regulation. In such a situation, a station with a comparative advantage in broadcasting Australian programs would be able to benefit financially by transferring its excess quota to a station having difficulty in satisfying the requirement. Such an approach would ensure maintenance of the prescribed global domestic transmission quota even though some stations may not comply with the requirement. To the extent that stations choose to operate away from the mean level, the diversity of programs available to viewers would be enhanced. More choices in terms of domestic and imported programs would be provided to viewers. At the same time, stations with a comparative advantage in Australian programs would have an incentive to pursue such programming to a higher degree than otherwise because of the value of the tradeable quota.

Another element of the quota that may act against the intention of the regulation is its equal application to all three commercial stations. Because of the tendency of stations to compete with each other by duplicating programs offered in the same time slot, the imposition of equal quantity obligations on all operators results in the regular pitching of similar Australian shows against each other. While this increases the likelihood that anyone watching commercial television at that particular time will watch an Australian program, it also means that viewers who may prefer Australian programs may not have that option available to them at other times. One solution might be to give the ABC a greater role in the provision of Australian programs together with a commensurate reduction in the obligation of commercial stations. Withers (1985), for example, argued that the adoption of a complementary rather than competitive programming policy by the ABC would increase diversity by catering for program types that are unattractive to commercial stations.

**Drama Requirements**

The adult drama requirements present a paradox. Australian drama tends to be popular with audiences and successful programs are financially attractive to broadcasters. The production of drama, however, is risky. The high level of risk constitutes a disincentive to television operators who are able to earn the same or better risk-adjusted profit by broadcasting competitive imported drama. The drama quota forces the cost of the risk on to the broadcasters. It means that, irrespective of the cost involved, a station has to broadcast the mandated level of drama. Consequently, to satisfy the quota obligations, it is possible that the production of some drama programs has to be pursued even when audience appeal is low.
Some broadcasters may have a competitive advantage in the production of drama programs. As noted in the analysis in Chapter 5, ATN (Seven Network) has been quite successful with the broadcast of Australian drama in excess of quota obligations. In contrast TCN (Nine Network) has had difficulty in meeting its quota obligations. A tradeable drama quota mechanism would have similar effects to the tradeable transmission quota arrangements proposed above and might improve the system in a similar manner. However, in the case of drama, the regulation is an attempt to correct for the risk aversion of broadcasters that leads to an inadequate supply of Australian programming. In such circumstances it may be more efficient to correct the problem directly by action designed to reduce the risk associated with the production of Australian drama. A production subsidy would have that effect and, unlike quotas, the level of assistance provided would be transparent.

There are a number of precedents for financial intervention to correct for risk in producing drama. For example, New Zealand has established a mechanism to provide funding for the production of domestic drama. A similar mechanism is also used in Canada\(^2\). In Australia, too, there are precedents. The recently established Australian Television Production Fund is aimed at increasing production of drama programs and documentaries for screening on commercial television. The financial assistance arrangements for the production of feature films are also similar in scope.

Another advantage of a production subsidy is that it could be directed specifically to the type of programs with the greatest influence on cultural development. One of the acknowledged failures of the current regulatory arrangement is its ineffectiveness in improving the quality of drama on commercial television. Higher quality drama tends to be associated with higher levels of production inputs and, thus, higher costs. However, higher cost programs seldom attract commensurately higher audiences to generate sufficient revenue to outweigh the cost differentials. Consequently, there is little incentive for broadcasters to supply the higher cost drama. A system of production subsidies could be targeted to increase the incentives of broadcasters to show such programs.

Care would need to be exercised in designing a subsidy scheme to ensure that the subsidies are directed to programs likely to appeal to viewers. For example, applicants for assistance under the New Zealand and Canadian funding schemes have to demonstrate commitment from a broadcaster that the program will be put to air. Such arrangements have appeal because eligibility for funding is linked to market signals on viewer preferences.

A change from programming quotas to production subsidies would shift the cost of the regulation from the broadcasters to the Government, unless it is accompanied by offsetting taxation. The current arrangements are essentially a form of indirect taxation on broadcasters. The tax nature of the drama obligation is clearly evident in the corresponding obligation of drama pay television channels to devote ten per cent of their programming expenditure to domestic programs. Thus, while the current licence fees

\(^{2}\) Details of the New Zealand and Canadian funding mechanisms are provided in Appendix II.
arrangements continue to apply, it may be possible to increase the rate at which they are levied to cover the cost of subsidising drama production. Alternatively, stations could be required to pay a domestic program levy set as a percentage of advertising revenue discounted for expenditure on independent productions. A further possibility would be to re-introduce a television viewers’ licence fee to fund the subsidy along the lines of the arrangements in place in New Zealand.

Children’s Drama

As noted above, the requirements for children’s drama (and other children’s programs) impose a substantial cost burden on broadcasters. As for other elements of the regulation, the requirements are essentially a tax and could be more easily collected via the existing licence fee system. Once collected, the tax revenue could be used to subsidise the cost of producing children’s drama and targeted to ensure adequate quality. To make the drama programs attractive to broadcasters, children’s drama prices would have to be comparable with those of other children’s programs.

The current arrangements require all three stations to provide similar quantities of children’s programming. Often, choice is limited to one time slot with three options of programs with similar formats. At other times, children have to be content to watch, if allowed, programs designed to cater for adults. Under such circumstances, it may be more valuable to children to have programs catering to their needs available to them at other times.

One of the national broadcasters (the ABC) has had considerable success in the production and broadcasting of children’s programs. Its commitment to children’s programs is not driven by the profit imperatives of commercial operators and the objectives of its programs are more likely to be directed at meeting the needs of children. It may be more efficient, therefore, to require the national broadcasters (ABC and SBS) to increase their supply of children’s programming and release commercial broadcasters from children’s programming obligations but not necessarily from obligations to fund children’s programming.

To implement such a proposal, licence fees of commercial broadcasters could be increased to cover the cost of current children’s programming obligations. The funds thus collected could be allocated to the national broadcasters specifically for the production of children’s programs. The quantity of children’s programming broadcast would increase, giving children an opportunity to watch programs specifically made for them at times best suited to them. On the negative side, the reduction or removal of children’s programs from commercial stations will reduce the choice of programs currently available to children. However, because of the tendency for commercial stations to compete with each other by pitching similar programs in the same time slots, the reduction in the diversity of programs available to children would be smaller.

Additional programming for children on the national broadcaster could not occur without displacement of other programming which might be equally socially desirable.
(e.g. educational programs for schools). Alternatively, the ABC or SBS could be assigned additional spectrum to broadcast children’s programs and perhaps other socially desirable programming.

**Direct Provision of Domestic programs**

Technological changes are likely to alter considerably the structure of broadcasting services. The much larger choice of services likely to be available to viewers will fragment audiences and consequently diminish the influence of each individual service. The anticipated structure of television is one where channels will specialise in one or a few types of programs, rather than the current approach where the limited number of channels supply a broad range of programming. Subscription television services are already exhibiting the characteristic of specialised channels.

Technological change is also altering the public good nature of broadcasting signals. Until recent times, it was not technologically possible to exclude anyone owning the appropriate equipment from receiving a broadcast signal. The development of broadband networks has made it possible to limit access to cable television channels to subscribers only. Access to over-the-air signals also can be restricted using technology developed in recent years. The change in the nature of the delivery signals does not alter the public good characteristics of television programs and other information based products. For efficiency, no one with a net positive value for the programs or similar products should be prevented from getting access to them. The cost of access to signals, however, will limit access to those who are prepared to pay. Because of the importance of information to the functioning of society, free access is likely to become an important social issue. In a situation where access to television programs and other sources of information and entertainment become increasingly restricted to those with a capacity to pay, therefore, there may be strong equity arguments for the free provision of at least a minimum amount of information to everyone.

As already recognised for subscription television, the changing nature of television services means that domestic content regulation applicable to all channels is unlikely to be effective or necessary. Services specialising in time-dependent programs with an inherent local advantage, such as sports and news and current affairs, are likely to supply domestic programs for a large proportion of their transmission time without regulation. Because of the relatively small domestic market, other specialist services may have to depend on imported programs to fill their schedules. The public good characteristics and non-time-dependent nature of other programs, such as drama, provide a strong incentive for channels specialising in such programming to source them overseas. Minimum quotas for domestic content applied across the board thus would discriminate against services with a high level of import dependence.

It may be possible to apply regulation to specifically defined services, as is done with “predominantly drama channels” on subscription television services. Such an approach may be feasible in the short term, but is unlikely to remain effective in the longer term. The definition of the services may be difficult to police or the regulation may be
inequitable to some of the delivery media, particularly when close substitutes are involved (e.g. subscription drama channels, electronic video-on-demand services, and retail video hire). It may also mean that services likely to be affected by regulation will eventually move their operations overseas and supply Australian consumers from offshore locations beyond the reach of domestic regulation. Technological developments are likely to make such relocations more attractive and feasible in the future.

For some popular domestic programs, such as drama, production subsidies could be used to offset their cost disadvantages vis à vis imported programs. Alternatively, national broadcasters could be given responsibility to supply socially desirable programs, including drama. To remain competitive in a specialised service environment, the national broadcasters would need to develop some degree of specialisation in the services they provide. To be effective they are likely to require more than one channel. For example, the ABC had been allocated two of the ten channels available for direct broadcasting from satellite services. Alternatively, as broadband cable networks are established, the national broadcasters could be allocated channel capacity on the networks.

Direct provision of services can be targeted specifically to desirable programs. For drama, for example, emphasis could be given to the supply of higher cost (higher quality) programs. To ensure they remain relevant, the service providers would have to pay adequate attention to audience preferences. There would be little point in providing programs that appeal to small minority groups when the primary aim of the intervention is to capture the cultural external benefits of domestic programs. As a public service, the range of programs provided would need to appeal to a broad section of the community. Different channels, or parts of the program schedule on a single channel, could be directed at different sections of the community. The main function of the national broadcasters would be to give people access to desirable domestic programs as an alternative to imported programs of the same genre.

OVERALL ASSESSMENT AND FUTURE OUTLOOK

The regulation of domestic content of television programs is an important element of the cultural policies of most developed countries. Typically, the regulation is also an arm of industry assistance and employment creation policy. The twin objectives are inseparable even if the link between them is no longer emphasised in the light of today’s world trading environment. In any event, while the existence of external cultural benefits may provide the basis for market intervention on cultural policy grounds, intervention on industry assistance grounds would be difficult to justify.

Existence of market failure alone is not sufficient to justify intervention. Justification must necessarily be based on the effectiveness and efficiency of the instruments used to correct for the market failure. The preceding analysis suggests that the Australian regulation is only partially effective in producing desired outcomes. It also suggests that while it is likely to deliver a net benefit to society, welfare could be improved by the
adoption of alternative forms of intervention. The analysis also points to the likely unsustainability of the present instruments in a changing technological environment.

Of the existing instruments, the transmission quota contributes the least to the objectives of the regulation. Many of the domestic programs included in the current programming schedules of stations would continue to be supplied even in the absence of the transmission quota. Programs such as news, current affairs and sports not only have a large element of natural protection from imports, but also enjoy a high level of popularity among viewers and are profitable to stations. In the entertainment area, however, stations may not supply optimal levels of domestic programming because of the likely existence of bias and market failure in the program market.

It is possible that a more focused regulatory instrument could improve both the effectiveness and the efficiency of the current transmission quota approach. Inclusion of all programs in a quota that affects only some of them is clearly not well focused. Exclusion of programs that are highly likely to be supplied anyway would allow the intervention to focus on those programs that are more likely to contribute to the cultural objective of the regulation and that would not be supplied in sufficient quantities without the intervention. In this context, the European approach of determining transmission quotas as a proportion of the air time devoted to entertainment programs that compete directly with imports may have some merit.

The specific requirements for children’s programs and adult drama appear to be more effective in changing the market behaviour of stations. The preceding analysis clearly demonstrates that children’s programming, particularly drama, would be unlikely to be a prominent feature of television programming without the regulation. Similarly, but to a lesser extent, adult first release drama would not be as prominent without the regulatory requirement. The existing instruments, therefore, could be said to be effective in meeting the objectives of the regulation.

Assessment of efficiency is necessarily based on estimates of the costs and benefits of an intervention. Because of the difficulty of measuring intangible cultural benefits directly, the study used contingent valuation to estimate whether the value of the benefits accruing to society were commensurate with the cost of supplying domestic programming on Australian television. While the value of the benefits was found to be of the same order of magnitude as the cost of supplying domestic programming, it is not possible to determine the extent to which welfare is improved by the regulation. The conclusion of the contingent valuation survey was that a majority of respondents indicated a willingness to continue paying the estimated cost per household that is associated with the domestic television programming. Consequently, all that can be said with reasonable conviction is that the regulation is unlikely to be making society worse off.

As noted above, it seems possible that the current regulatory mechanisms could be better targeted and modified to improve their efficiency and increase the net welfare accruing to society. The introduction of tradeable quotas, for example, would facilitate specialisation by stations in areas of programming where they have comparative
advantages without reducing the overall output of desirable programming. Other mechanisms such as production subsidies would have the added advantages of transparency and better targeting of both the type and quality of programs.

The unstated assumption underlying the above proposals is that the industry environment will not undergo major change. While this may be a reasonable assumption in the short-term, it is clearly untenable in the medium- to long-term. Communications technology is undergoing rapid change and the pace of change is expected to increase. The television market is already changing and will continue to do so. This is an ominous portent for the effectiveness and efficiency of regulatory instruments that were designed for an era of high predictability and little change.

Given that the natural market for all communications services is increasingly becoming global, mechanisms such as programming quotas (including quotas based on proportions of programming budgets) are unlikely to retain their effectiveness. Domestic governments have no jurisdiction over programming originating outside their geographic territory. This raises important questions for cultural policy at the national level. Given that the current regulation benefits society, appropriate policy instruments may need to be developed to ensure that the benefits will continue to accrue in the new environment.

The expected large expansion of electronic information and communication services is likely to lead to a market structure where the supply of programs will reflect demand. To a large extent, programs with a sufficiently large private demand will be supplied by the market. Nonetheless, some programs likely to generate cultural benefits in the form of externalities may continue to be undersupplied. In such circumstances, the current quota approach is unlikely to be effective in producing the desired outcomes. It is more likely that production subsidies or direct provision of socially valuable programs will be more effective. A movement towards the use of such regulatory instruments sooner, rather than later, may be more appropriate. In a changing technological environment it appears that government will not be able to proscribe what is consumed and can do no better than ensure that those who value programs deemed to be socially desirable have the option of consuming them if they wish.
APPENDIX I  HISTORICAL DEVELOPMENT OF AUSTRALIAN CONTENT REGULATION OF TV PROGRAMS

INTRODUCTION

This appendix provides a summary of the features of the regulation of Australian content of television programming and traces the development of the regulation from the days preceding the introduction of television to the present. For comparative purposes, details of government intervention in television programming in selected overseas countries is also provided.

EARLY DEVELOPMENTS

The first detailed consideration of domestic content regulation was conducted by the Royal Commission on Television (1954) that preceded the introduction of television in Australia. The Commission considered the need for a regulation similar to the provision for domestic content then applying to radio programming and summarised the views of both proponents and opponents to the introduction of minimum quotas for local television programming. The proponents of quotas argued that they were necessary “to provide scope for the development of the talents of Australian artists in a manner calculated to foster our distinctive national characteristics, and a means of preserving our national heritage and culture” (p. 155). The opposing argument was that no restrictions were desirable “in order to provide an adequate supply of programme material and allow the Australian community to have access to the cultural contributions of other countries”. Although sympathetic to arguments favouring regulation, the Royal Commission concluded that the setting of quotas was not practicable “before any actual experience has been gained as to the amount of talent available or its capacity to provide a good standard of programme” (p. 157).

When television was introduced in 1956 the only obligation on operators relating to Australian content was imposed by section 114 (1) of the Broadcasting and Television Act 1942 which required the employment of Australians, as far as is possible, in the production and presentation of programs. While pressure continued for the introduction of more specific requirements, the then regulatory authority, the Australian Broadcasting Control Board (ABCB), was reluctant to entertain increased burdens on fledgling operators. Its annual report for 1957-58 referred to the “special problems, primarily financial” faced by the stations in presenting live drama programs without greater advertiser support. Under those circumstances, the ABCB felt that it would not be “reasonable to expect stations to carry any substantial amount of such programmes”. (ABCB 1958, p. 37).

Other factors also appear to have influenced the ABCB’s reluctance to introduce regulation. For example, the ABCB’s annual report for 1958-59 suggests that the
inadequate performance of television stations with regard to the production of Australian programs could be partly explained by financial and personnel difficulties:

"Stations are confronted with the problem of competing, in production standards, with imported programmes the production of which would cost much more than is available under the present economic limits for an Australian production. Several commendable attempts to promote the use of the services of Australians have met with rather disappointing results, and it appears that there is some evidence that the earlier estimates of the extent of Australian talent which would be available for television programmes have not been realised. There is, in particular, a very real need for competent television writers ..." (ABCB 1959, p. 41)

Introduction of Regulatory Mechanisms

Faced by unabating pressure for regulation and a situation where: “by December 1959, the majority of the commercial stations televised practically nothing but imported films between 7.30pm and 9.30pm on any evening” the ABCB eventually felt compelled to intervene and recommended the introduction of quotas to the Minister (ABCB 1960, p. 38). As a result, starting from 1961, television stations that had been established for at least 3 years were required to use Australian material for not less than 40 per cent of their total transmission and to transmit at least one hour per week of Australian material during prime viewing time (7.30pm - 9.30pm). The quota arrangements were modified on many occasions in subsequent years. A summary of the changes is provided in table I.1 at the end of this appendix.

In 1962, with effect from 1964, the Australian content quotas were increased to 45 per cent overall and two hours per week during prime time. The overall quota was further increased to 50 per cent in 1965. These increased requirements appear to have stemmed at least partly from a concern about the high level of dependence of local operators on programming from the United States. To encourage stations to diversify their sources of imported programming, the revised arrangements provided an incentive for the use of programs from British Commonwealth countries. Such programs could be used to fill a total of 5 per cent of the content quota and were to be credited for quota purposes at half the domestic rate (i.e. one hour of imported program would count for half an hour of Australian program).

SENATE COMMITTEE ON ENCOURAGEMENT TO AUSTRALIAN TV PRODUCTIONS

The first major review of television programming after the introduction of television in Australia was conducted by the Senate Select Committee on the Encouragement of Australian Productions for Television (Vincent Committee 1963)\(^1\). The Committee was very critical of many aspects of television programs. It was particularly critical of what it

\(^1\) Commonly referred to as the Vincent Committee after its chairman (V. S. Vincent).
considered to be an insufficient level of Australian-produced programs, especially drama, and of the high level of imports from the United States. The Committee also strongly criticised the Australian Broadcasting Control Board for failing to discharge “its obligation more adequately and effectively” by not enforcing compliance with the quotas. \( \textit{ibid}, \ p. \ 6 \)

The Vincent Committee expressed concern about “the undesirable sociological and cultural consequences” of inadequate levels of Australian content, particularly drama, on television. In this context it stated:

“Perhaps the greatest danger lies in its effect upon the rising generation (the adult population having grown up without television), who, day after day, are not only receiving anything but the most inadequate picture of Australia, her national traditions, culture and way of life, but in its place are recipients of a highly coloured and exaggerated picture of the way of life and morals of other countries (mainly the United State of America)” \( \textit{Vincent Committee} \ 1963, \ p. \ 160 \).

The Committee also expressed concern at the lack of employment opportunities for creative people.

“A further serious consequence resulting from the small proportion of Australian drama is the position in regard to the Australian actor. ... With the announcement of the introduction of television the theatrical world of Australia was optimistic of further opportunities for the creative work of Australian actors and producers. It was a most unfortunate state of affairs that followed the introduction of television. Radio drama declined until it became insignificant in a quantitative sense and the anticipated large-scale development of television drama in Australia did not eventuate. It was a particularly bad oversight on the part of the responsible authorities. Large numbers of Australian actors were unable to find employment ...” \( \textit{ibid}, \ p. \ 160 \).

Although the large number of recommendations on program assistance made by the Vincent Committee were not adopted by the Government, its report appears to have been influential on subsequent regulatory interventions. In August 1966, for example, the ABCB announced new requirements (effective July 1967) retaining the 50 per cent overall content quota, but increasing the prime time requirements to 12 hours per 28 days (previously 2 hours per week). A subsidiary obligation for prime time was also introduced requiring that at least 2 hours each 28 days be devoted to Australian drama. The assessment period was limited to 48 weeks per year (excluded 4 weeks in summer). Prime time was redefined as the period between 7.00pm (previously 7.30) and 9.30pm with any Australian program commencing before 9.00pm given credit for its full duration. As a further encouragement for drama and children's programs both categories were accorded ‘bonus’ credits towards the fulfilment of the overall content quotas. Indigenous drama and children's programs were accorded double value in terms of hours for the overall quota and partly indigenous drama was accorded one and a half times its value. In 1969 the amount of Australian programs in prime time was increased further to 18 hours per 28 days; the drama requirement continued unchanged. \( \textit{ABCB} \ 1967 \).
Further major changes to the content rules were implemented in 1971 with the introduction of a 45 per cent Australian content quota during prime time (increased to 50 per cent in 1972). These changes also increased the prime time Australian drama requirement to 6 hours per 28 days and introduced a requirement for 4 hours of children’s programs per 28 days presented at times suitable for school age children. The revised arrangements retained the extra credits for drama and children’s programs, but discontinued the credit for British Commonwealth programs because they had proved to be ineffective. (ABCB 1971).

The 1971 changes followed an extensive public campaign and lobbying by actors and related program production interests, and an inquiry by the ABCB. While the quota obligations appeared to have been increased substantially, their impact was attenuated by redefinitions of transmission time and prime time for quota purposes. Under the new arrangements, the overall Australian content level was determined as a proportion of a station’s transmission hours between 6:00am and midnight. Transmissions outside that period were no longer counted for Australian content purposes. More significantly, prime time was redefined as the period between 6.00pm and 10.00pm (previously 7.00pm to 9.30pm). This meant that the net increase in prime time viewing was smaller than may at first appear due to the fact that most stations broadcast half an hour of news between 6.00pm and 7.00pm daily. In addition, current affairs, documentaries and live musical variety programs starting no later than 9.30pm were treated as prime time programming for their full duration up to 10.30pm.

THE POINTS SYSTEM

Criticism of the system and of the perceived reluctance of the ABCB to enforce the requirements continued. A new system was introduced in 1973 replacing the overall quotas by a ‘points system’. The changes were predicated by a desire for further increases in Australian programming on television and more particularly to encourage greater diversity and higher quality of programs. (ABCB 1973).

Under the new arrangements, Australian programs were awarded points, ranging from 0.5 to 10, intended to reflect a program’s contribution to desirable diversity, as well as take account of the program’s “quality, cost, employment opportunities and time of presentation.” (ibid, p. 110). Essentially, stations were required to transmit Australian programs to gain a total number of points at least equal to the number of hours of transmission by the station between 6.00am and midnight each 28 days. In terms of hours, this implied a negligible increase to the level of Australian programs transmitted by metropolitan stations during the year ending June 1973. In addition to the transmission points, stations were required to broadcast 6 hours of first release Australian drama each 28 days during prime time. The drama requirement was slightly

---

2 On average, additional Australian material equivalent to some 10 points (out of around 5000) per year was required (ABCB 1973, p. 113).
increased to 74 hours per year in 1974 when the 52 week assessment period was reintroduced and further increased to 104 hours per year in 1976.

The points system remained in place until 1990 but a number of additional specific program requirements were introduced as a result of continuing reviews by the ABCB and the Australian Broadcasting Tribunal (ABT) which replaced the ABCB as the industry regulator at the end of 1976. The principal changes were:

- The initial requirement of 4 hours per 28 days of school age programs between 4.00pm and 7.30pm was increased to 6 hours in 1974 and to 10 hours in 1976.

- A requirement to screen annually 4 ‘big-budget specials’ in the form of either variety spectaculars or one-shot drama was introduced in 1976.

- Eligible children’s programming was redefined in 1979 and 3 hours per week of such programs were required to be transmitted between 4.00pm - 5.00pm on weekdays (subsequently increased to 5 hours per week in 1980). In addition a requirement to broadcast 30 minutes per weekday of pre-school age children programs before 4.00pm was introduced in 1980.

- Further changes to children’s programming requirements were introduced in 1984. The time between 4.00pm and 5.00pm on weekdays was reserved for children’s programs, 50 per cent of which had to be first release Australian. Also each station was required to broadcast 8 hours of first release Australian children’s drama per year.

REGULATION IN THE 1990s

Major changes to the requirements were introduced in 1990 following an extensive public inquiry by the ABT. The new regulation discontinued the points arrangements for overall transmission content and reverted to the earlier approach of a transmission quota requiring Australian programs to be broadcast for a given proportion of transmission time between 6.00am and midnight. The aim was to ensure that stations used Australian programs for 50 per cent of their transmission time. The requirement was phased in over four years starting in 1990 when a transmission quota of 35 per cent was set. The quota was increased at the rate of 5 percentage points per year until the final level of 50 per cent was reached in 1993.

A new points scheme was introduced to encourage the production and broadcasting of Australian drama and diversity programs. The points score for eligible programs was calculated by multiplying its duration in hours by an Australian factor and by a quality factor. The Australian factor was based on the level of Australian involvement in the production of the program and could take the values of zero, 1.5 or 3.0. The quality factor had four different values (1.1, 2.2, 3.5 or 5.0) reflecting differences in the “average purchase price per hour of the various drama formats and ... (in) the notional costs and programming risks in the case of diversity programs.” (ABT 1991a, vol. 1, p. 7)
To comply with the points scheme, stations were required to achieve an average drama/diversity score of 1420 points per annum over a three year period (i.e. a total of 4260 points over the three years). Only first release programs qualified for points. The average annual score was made up of three components, namely, 850 points for adult drama, a minimum of 170 points for children's C drama and 400 points for diversity or additional drama (including C drama) programs. In any one year stations had to achieve a minimum total score of 1320 points of which at least 750 had to be gained from adult drama. Adult programs gained points for the diversity/drama score only if screened between 6.00pm and midnight. The screening time was later amended to a continuous 6-hour period between 5.00pm and midnight nominated individually for the purpose by each station. The minimum annual score for first release children's C drama was fixed at 170 points (phased in at 125 points for 1990 only), but any excess could be credited towards the drama/diversity score.

Additional requirements with respect to children's programs were also in force. These required stations to broadcast at least 390 hours of children's programs per year. Of these, a minimum of 130 hours had to be P programs (i.e. programs suitable for preschool children) and a minimum of 260 hours must be C programs (suitable for primary school children). Transmission conditions ensure that at least 30 minutes of P programs and 30 minutes of C programs were broadcast within specified time bands each weekday (P band - 8.30am to 4.30pm; C band - 4.30pm to 8.30pm). In terms of Australian content, stations were required to broadcast Australian programs, including the separate first release children's drama requirement, to fulfil at least half of the C programs quota of 260 hours.

CURRENT ARRANGEMENTS

Following a review by the ABA, the transmission quota for Australian programs shown between 6.00am and midnight is to be increased to 55 per cent from the beginning of 1998. From 1 January 1996, first release sports coverage extending beyond midnight can be credited for the transmission quota for its duration up to 2.00am.

New points arrangements were introduced for drama, but the quantity to be supplied by stations has remained approximately the same. The definition of drama now includes 'fully scripted sketch comedy' (previously, only situational comedy was included). Other diversity programming no longer qualifies for points. A major aim of the new arrangements was to simplify the point scoring for the drama quota. The Australian factor has been removed from the calculation, but to gain points a program must comply with the definition for an Australian program. The definition is less stringent than previously and now includes programs produced under official co-production agreements with other countries. The quality factor was replaced by a simpler format factor which can take one of three values reflecting the type of program that is broadcast. The time

---

3 C drama is children's drama screened during the 'C' time band of 4.30pm to 8.30pm weekdays and 7.00am to 8.30pm on weekends and school holidays.
band during which first release drama must be broadcast was extended to include the full period from 5.00pm to midnight (previously a broadcaster had to nominate in advance 6 hours in that period).

Children’s drama points requirements were replaced by a quantity quota. In 1996, at least 24 hours of first release children’s drama is to be broadcast in C Band, increasing to at least 28 hours in 1997 and to 32 hours in 1998 and subsequent years. In addition, 8 hours of previously shown children’s drama (repeats) are to be broadcast each year. Other C programming requirements were retained, but the time band for children’s programming has been extended to include any time between 7.00am and 8.30pm. The requirements for P programming were also retained, but all P programs are now required to be Australian. The P time band has been extended to commence at 7.00am.

The revised arrangements also include a quota of 10 hours per year of first release Australian documentary programs of at least 30 minutes each.
Table I.1: Historical Summary of Australian Content Regulations

<table>
<thead>
<tr>
<th>YEAR</th>
<th>OVERALL CONTENT REQUIREMENTS</th>
<th>PRIME TIME REQUIREMENTS</th>
<th>OTHER PROGRAM REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1956</td>
<td>General requirement to use, as far as possible, services of Australians in production and presentation of programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1961</td>
<td>40 per cent</td>
<td>1 hour per week</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Stations established more than three years only)</td>
<td>(7.30pm - 9.30pm)</td>
<td></td>
</tr>
<tr>
<td>1964</td>
<td>45 per cent</td>
<td>2 hour per week</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(metropolitan stations only)</td>
<td>(7.30pm - 9.30pm)</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>British Commonwealth programs credited at half Australian rate up to 5 per cent per week.</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1965</td>
<td>50 per cent</td>
<td>2 hour per week</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(metropolitan stations only)</td>
<td>(7.30pm - 9.30pm)</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>British Commonwealth credit continues.</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1967</td>
<td>50 per cent</td>
<td>12 hours per 28 days including 2 hours of drama (7.00pm - 9.30pm)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2 hours per week</td>
</tr>
<tr>
<td></td>
<td>(metropolitan and country stations established more than 3 years)</td>
<td></td>
<td>between 7.00pm - 9.00pm</td>
</tr>
<tr>
<td></td>
<td><em>British Commonwealth credit continues. Double credit for indigenous Australian drama and children programs including repeats: 1.5 times credit for other Australian drama.</em></td>
<td>televise 2 hours per week between 7.00pm - 9.00pm</td>
<td><em>Assessment limited to 48 weeks per year; excludes summer holiday period.</em></td>
</tr>
<tr>
<td>Year</td>
<td>Requirement</td>
<td>Time Period</td>
<td>Extra Credits</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>-------------</td>
<td>---------------</td>
</tr>
<tr>
<td>1969</td>
<td>50 per cent</td>
<td>18 hours per 28 days</td>
<td>Extra credits as for 1967.</td>
</tr>
<tr>
<td>1971</td>
<td>50 per cent (6.00am - midnight)</td>
<td>45 per cent overall including 6 hours of first release Australian drama per 28 days (6.00pm - 10.00pm)</td>
<td>4 hours children programs per 28 days presented at times suitable for school age children</td>
</tr>
<tr>
<td>1972</td>
<td>50 per cent (6.00am - midnight)</td>
<td>50 per cent overall including 6 hours of first release Australian drama per 28 days (6.00pm - 10.00pm)</td>
<td>4 hours children programs per 28 days presented at times suitable for school age children</td>
</tr>
<tr>
<td>1973</td>
<td>Overall transmission quota replaced by ‘Points System’. Stations required to transmit Australian programs to achieve a points target equal to its total transmission hours (6.00am and midnight). Points allotted to programs range from 0.5 to 10 points per hour depending on type of program.</td>
<td>6 hours of first release Australian drama per 28 days (6.00pm - 10.00pm)</td>
<td>4 hours school-age children’s programs per 28 days (4.00pm - 7.30pm)</td>
</tr>
<tr>
<td>1974</td>
<td>Revision to points scale reducing value accorded repeat programs and increasing value to programs with Australian composed and performed music.</td>
<td>74 hours of first release Australian drama per year (6.00pm - 10.00pm)</td>
<td>6 hours school-age children programs per 28 days (4.00pm - 7.30pm)</td>
</tr>
</tbody>
</table>

*Extra credits apply only to first release Australian drama and children’s programs.*
<table>
<thead>
<tr>
<th>Year</th>
<th>Changes</th>
<th>Hours of First Release Australian Drama Per Year (6:00pm - 10:00pm)</th>
<th>Additional Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>Further revisions to points system increasing points value of one-shot drama, kindergarten and certain types of information programs and reducing values for repeat programs.</td>
<td>104 hours</td>
<td>10 hours school-age children's programs per 28 days (4:00pm - 7:30pm) 4 &quot;big-budget specials&quot; variety spectacles or one-shot drama per annum</td>
</tr>
<tr>
<td>1979</td>
<td>Change to school-age children’s program quotas introduced. Other requirements continue unchanged.</td>
<td>104 hours</td>
<td>3 hours per week of specially designed (C' classified) programs (4:00pm - 5:00pm weekdays)</td>
</tr>
<tr>
<td>1980</td>
<td>Increase 'C' program quotas. Introduction of pre-school programs requirements. Other requirements continue unchanged.</td>
<td>104 hours</td>
<td>5 hours per week of 'C' classified programs (4:00pm - 5:00pm weekdays) 30 minutes pre-school age children's programs per weekday before 4:00pm</td>
</tr>
<tr>
<td>1984</td>
<td>Requirements for children's programs revised. Other requirements continue unchanged.</td>
<td>104 hours</td>
<td>4.00 to 5.00pm timeslot Monday to Friday reserved for 'C' programs 50% of which each year must be first release Australian. 8 hrs/yr of first release Australian children's drama</td>
</tr>
<tr>
<td>Year</td>
<td>Details</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>-------</td>
<td></td>
</tr>
</tbody>
</table>
| 1990 | Overall transmission quota:  
-35 per cent in 1990;  
-40 per cent in 1991;  
-45 per cent in 1992;  
-50 per cent in 1993 and later years.  
Drama/diversity points quota incorporating 'Australian' and 'quality' factors. | Drama/diversity score set at an average of 4260 for each 3 calendar year period including 2550 for drama, but requiring a minimum annual score of 1320 points including 750 for drama and 170 for children’s drama (125 for 1990 only).  
Prime time defined as continuous six hours nominated by station between 5.00pm and midnight | 260 hours per annum of ‘C’ programs during C time band including 130 hours between 4.30pm and 8.30pm weekdays (130 hours of C programs to be first release Australian)  
130 hours preschool programs (8.30am - 4.30pm weekdays)  
170 points of first release children’s drama |
| 1996 | Overall transmission quota of 55 per cent (from 1998 on)  
Introduction of first release documentaries requirements.  
Introduction of requirements for all P programs to be Australian and for 10 hours of repeat children’s drama per year.  
First release sports coverage extending beyond midnight will be credited for the transmission quota for its duration up to 2.00am | Drama requirements continue under revised points system; diversity requirements dropped.  
Minimum drama score of 225 points per year and 775 points per 3 years (Note: points revision entails virtually no change in quantity of drama for compliance)  
At least 10 hours of documentaries of at least 30 minutes each. | C programs requirements retained; C time band extended to include 7.00am to 8.00am.  
P time band extended to 7.00am to 4.30pm.  
All P programs to be Australian. |

**NOTES:**  
a = Programs scheduled to start not later than 9.00pm given credit for full duration.  
b = Current affairs, documentary and variety programs starting no later than 9.30pm and continuing beyond 10.00pm given credit as prime time programs up to 10.30pm.  

**Source:** ABT and ABCB Annual Reports, and ABA Program Standards.
APPENDIX II: PROGRAM REGULATION IN OTHER COUNTRIES

INTRODUCTION

With a few exceptions (notably the United States (US) and New Zealand), most western countries have implemented domestic content regulations for their television industry. The expressed reasons for the regulation are invariably cultural protection and development of a domestic program production industry. To a large extent, the regulations are an attempt to limit the dominance of the US in the world supply of television programs. Imports of programs into the US are only a very small proportion of the total number of programs that are broadcast.

The objective of promoting the enhancement of national culture by limiting the consumption of foreign programs is a common element of the television programming regulation of most countries. The mechanisms adopted to achieve the common goal are also similar but there are some interesting differences. Quotas setting out the minimum level of domestic content are the most common mechanism used by many countries to limit the quantity of imported programs. Invariably, over 50 per cent of the air time is reserved for domestic programming. In addition, some countries have adopted sub-quotas or financial assistance mechanisms to promote particular types of programs (typically higher cost drama). Whereas Australia adopted specific quota levels for overall transmission and for program categories such as drama and children programs, some of the countries have augmented their transmission quotas with financial assistance for the production of favoured programs. Some of those mechanisms may offer examples of policy intervention with potential application in Australia.

The following provides a brief summary of the regulatory approaches that have been adopted overseas to promote the consumption of domestic television programs. The selection of the countries below was ad hoc, mainly on the basis of available information and similarities with Australia in terms of both culture and television systems.

EUROPE

The main instrument for the regulation of domestic television programming in Europe is the European Council directive “Television Without Frontiers” of 1989 (Directive 89/552/EEC). Article 4 of the directive requires that:

“Member States shall ensure where practicable and by appropriate means that broadcasters reserve for European works ... a majority proportion of their transmission time, excluding the time appointed to news, sports events, games, advertising and teletext services. This proportion having regard to the broadcaster’s informational, cultural and entertainment responsibilities to its
viewing public, should be achieved progressively, on the basis of suitable criteria.” (European Commission (1994), p. 25)

In addition, the similarly worded Article 5 of the directive requires broadcasters to devote at least 10 per cent of their transmission time (as defined by Article 4) or 10 per cent of their programming budget, to recent (less than 5 years), independently produced European works. The directive also allows Member States to apply stricter provisions where they are deemed necessary for national cultural (notably linguistic) reasons.

From its monitoring of the regulation, the European Commission reports that “the vast majority of broadcasters complied with the proportions laid down in Articles 4 and 5 for European works and independent productions in the period 1991-92” (European Commission 1995). Details of the compliance with the European quotas by main television stations in selected countries are provided in table II.1.

The requirements set out in the European directive are the minimum to be adopted by the Member States. Additional provisions that are not in conflict with the directive may be, and have been, implemented by some of the member countries. A selection of the additional provisions prevailing in some of the European countries is summarised briefly below. In addition to their regulatory instruments on programming, European countries generally have instituted mechanisms for the provisions of incentives to their film production industries.

**Denmark**

The regulation applies to the public broadcasting services of Danmarks Radio (financed from licence fees) and to the complementary advertiser-financed services. In addition to the requirements set out in the European directive, services must ensure that at least 50 per cent of programs are of Nordic origin. The services of Danmarks Radio are also required to broadcast a representative proportion of news, information and arts programming.

**France**

The French regulation sets specific quotas programs broadcast during prime time defined as 6.00pm to 11.00pm each day as well as 2.00pm to 6.00pm on Wednesday. The requirement is that at least 60 per cent of prime time is to be allocated to original works from the European Commission and at least 40 per cent of the time to original French language works.

**Germany**

There are no formal quotas at the national level as television regulation is a state (lander) responsibility. The various states apply different rules to television programming.
Generally, the obligations are in the form of conditions of service requirements attached to the broadcasting licence of stations.

**Italy**

At least 50 per cent of all movies screened must be European, of which at least half must be Italian.

**Spain**

Stations must reserve at least 51 per cent of their transmission time for European works of which at least 10 percentage points are to be made up of programs independently produced in the previous five years. At least half of the 51 per cent reserved for European works must be in Spanish or one of the other official languages of Spain (Catalan, Basque and Galician).

**United Kingdom**

Non-European works are limited to less than 50 per cent of the broadcasting time.

For Channel 3 (Independent Television Commission), 65 per cent of programs, including repeats, must be originally commissioned rather than acquired by the channel. Also each Channel 3 licence specifies strands of programs and the minimum quantities of each that has to be broadcast by the licensee. Regional licensees are required to broadcast some programs of particular regional interest and origin (ITC 1995).

Both Channel 3 and Channel 4 are required to devote a majority of their transmission time to the broadcast of material of European origin including at least 25 per cent of independently produced programs.

The BBC is excluded from most of the explicit requirements. However, it is required to commission at least 25 per cent of all programs from independent producers.
<table>
<thead>
<tr>
<th>Country/Channel</th>
<th>European Works</th>
<th>Independent Works</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BRTN(TV1)</td>
<td>74</td>
<td>...</td>
</tr>
<tr>
<td>BRTN(TV2)</td>
<td>70</td>
<td>...</td>
</tr>
<tr>
<td>RTBF1</td>
<td>85</td>
<td>...</td>
</tr>
<tr>
<td>RTL-TV1</td>
<td>44</td>
<td>...</td>
</tr>
<tr>
<td>Tele' 21</td>
<td>...</td>
<td>95.0</td>
</tr>
<tr>
<td>Denmark:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DANMARKS RADIO</td>
<td>86</td>
<td>...</td>
</tr>
<tr>
<td>TV2/DANMARK</td>
<td>62</td>
<td>...</td>
</tr>
<tr>
<td>France:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FRANCE 2</td>
<td>74</td>
<td>76.3</td>
</tr>
<tr>
<td>FRANCE 3</td>
<td>83</td>
<td>83.0</td>
</tr>
<tr>
<td>M6</td>
<td>73</td>
<td>63.8</td>
</tr>
<tr>
<td>TF1</td>
<td>68</td>
<td>70.7</td>
</tr>
<tr>
<td>Germany:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARD</td>
<td>80</td>
<td>88.1</td>
</tr>
<tr>
<td>ZDF</td>
<td>83</td>
<td>79.4</td>
</tr>
<tr>
<td>RTL</td>
<td>61</td>
<td>45.0</td>
</tr>
<tr>
<td>Greece:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET1</td>
<td>86</td>
<td>87.5</td>
</tr>
<tr>
<td>ET2</td>
<td>67</td>
<td>59.1</td>
</tr>
<tr>
<td>ET3</td>
<td>...</td>
<td>83.3</td>
</tr>
<tr>
<td>ANTENNA TV</td>
<td>...</td>
<td>60.8</td>
</tr>
<tr>
<td>MEGA CHANNEL</td>
<td>...</td>
<td>60.1</td>
</tr>
<tr>
<td>Ireland:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTE1/Network 2</td>
<td>61</td>
<td>73.0</td>
</tr>
<tr>
<td>Italy:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RAI-1</td>
<td>80</td>
<td>73.0</td>
</tr>
<tr>
<td>RAI-2</td>
<td>74</td>
<td>58.0</td>
</tr>
<tr>
<td>RAI-3</td>
<td>78</td>
<td>75.0</td>
</tr>
<tr>
<td>ITALIA 1</td>
<td>24</td>
<td>42.5</td>
</tr>
<tr>
<td>RETE 4</td>
<td>39</td>
<td>27.0</td>
</tr>
<tr>
<td>CANALE 5</td>
<td>30</td>
<td>57.8</td>
</tr>
<tr>
<td>Netherlands:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEDERLAND 1</td>
<td>72</td>
<td>...</td>
</tr>
<tr>
<td>NEDERLAND 2</td>
<td>77</td>
<td>...</td>
</tr>
<tr>
<td>NEDERLAND 3</td>
<td>82</td>
<td>...</td>
</tr>
<tr>
<td>Portugal:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CANAL 1</td>
<td>67</td>
<td>50.0</td>
</tr>
<tr>
<td>CANAL 2</td>
<td>64</td>
<td>62.0</td>
</tr>
<tr>
<td>Spain:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TVE-1</td>
<td>61</td>
<td>33.0</td>
</tr>
<tr>
<td>TVE-2</td>
<td>83</td>
<td>35.0</td>
</tr>
<tr>
<td>ANTENA 3</td>
<td>...</td>
<td>30.0</td>
</tr>
<tr>
<td>TELE CINCO</td>
<td>...</td>
<td>29.0</td>
</tr>
<tr>
<td>UK:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BBC1</td>
<td>75</td>
<td>...</td>
</tr>
<tr>
<td>BBC2</td>
<td>82</td>
<td>...</td>
</tr>
<tr>
<td>ITV</td>
<td>66</td>
<td>...</td>
</tr>
<tr>
<td>CHANNEL 4</td>
<td>65</td>
<td>...</td>
</tr>
</tbody>
</table>

Source: Screen Digest 1994
CANADA

Canada’s intervention in the television program market combines domestic transmission quotas and financial support for the production of domestic programs.

The *Television Broadcasting Regulations 1987* require stations to “devote not less than 60 per cent of the broadcast year and of any six month period specified in a condition of licence to the broadcasting of Canadian programs” (Subsection (6)). In addition, public licensees are required to devote not less than 60 per cent, and private licensees not less than 50 per cent, to the broadcast of Canadian programs in the evening broadcast period (defined as 6.00pm to midnight).

The Canadian content status of programs is determined on the basis of a 10-points scale. The programs are accorded points for each of the key creative people that are Canadian citizens at the rate of two points for each of the director and screen writer and one point for each of the highest and second highest paid actor, head of art department, director of photography, music composer and picture editor.

The main vehicle for financial assistance to the production of domestic television programs is the Canadian Broadcast Program Development Fund. The fund was established in 1983 with an annual budget of $C60 million “with the aim of promoting the production of high-quality, culturally relevant Canadian television programs made by Canadian private sector producers” (Telefilm Canada, undated). An auxiliary fund was established in 1989 and provides an additional $C16.5 million annually to support programs of exceptional quality and Canadian content or are produced originally in French.

The stated objectives of the fund are:

- To stimulate the production of “high-quality, culturally relevant television programs”
- To reach the broadest possible Canadian audiences with competitive prime time programming.
- To assist the development of a private sector television program production industry.
- To permit creative and technical personnel working in the industry to benefit fully from the public funds allocated to program production.

The fund gives priority to productions with “the highest proportion of Canadian creative elements such as Canadian stories, themes, talent and technicians”. There are no restrictions on the choice of subject or ‘natural settings’ but projects with a distinctly ‘Canadian point of view’ are favoured. Programs that are accorded less than six points for Canadian content are not eligible for funding and those with less than eight points are funded only in exceptional circumstances.
The categories of programs eligible for funding are drama, children’s programming, documentaries and certain variety programs such as performing arts and musical productions. Funding is available for individual programs (including pilot programs and films made for television) or series of several episodes. The maximum level of financing varies with the nature and Canadian content of the program. In exceptional cases, pilot programs, ‘high-quality’ drama and documentaries accorded 10 Canadian content points may receive funding up to 49 per cent of production costs. For series accorded 10 points, the initial level of funding may remain constant for the first three years. In subsequent years, the amount declines at the rate of 5 per cent of the total production budget and ceases altogether after five years. For productions with 8 or 9 Canadian content points whose writer, director and one lead actor are Canadians, funding of up to 40 per cent of total production costs may be provided. For series, funding declines at the rate of 5 per cent of the total production budget and ceases altogether after three years if at least 65 episodes have been produced. Programs with 6 to 8 Canadian content points are financed only in exceptional circumstances up to a maximum of 30 per cent of production costs.

Eligible projects must have a guarantee from a Canadian broadcaster to exhibit the program within 24 months of its completion. Where more than 20 per cent of the total production budget is provided by the Fund, licence fees from the sale of domestic broadcast rights must be at least 30 per cent of a program’s production budget or 25 per cent of a film’s production budget.

An evaluation of the fund by consultants concluded that:

- It had “transformed the structure of Canadian TV program production, toward a much more competitive and market-based industry.”

- “If the Fund were to disappear, it would cut the heart out of the prime time Canadian drama schedule for the CBC and private broadcasters.”

- “A major re-allocation of the Fund to some form of tax incentives for private investors ... would be destabilising, and would not likely achieve the goals set for the Fund.”

- “A major re-allocation of the Fund to some form of grants for production with no link to broadcaster needs would remove the Fund from the marketplace discipline within which it now operates.” (NGL Consulting 1991, p. 173)

---

1 Children’s programming and documentaries are exempted from the evening prime time exhibition requirement.

2 For series with less than 65 episodes in the first five years, funding may continue until 65 episodes have been produced.
NEW ZEALAND

Reflecting its free market philosophy, New Zealand does not impose regulation on broadcasters to use fixed quantities of domestic programming. Since 1989, its intervention in the market is via the funding of domestic television programs that promote or reflect the domestic culture. In addition, as part of its programming the state-owned, but commercially operated broadcaster, Television New Zealand Limited, "endeavours to present programmes which reflect and foster New Zealand's identity and culture" (Statistics New Zealand 1995).

The Broadcasting Commission (known as "NZ on Air") has been given the role of promoting "cultural and social objectives in broadcasting and such other activities seen as unlikely to receive sufficient commercial provision" (ibid). Its activities are funded by a licence fee collected from households that have a television set. In 1992-93 NZ on Air spent NZ$50.7 million on the production of television programs.

All broadcasters, whether public or private, may apply for funding to assist the production of programs. Funding ranges from NZ$9,000 per half-hour episode of a serial or series, to NZ$70,000 per hour for documentaries and NZ$250,000 for a telemovie.

Table II.2: New Zealand: Hours of Domestic Programming

<table>
<thead>
<tr>
<th>Year</th>
<th>TV One</th>
<th>Channel 2</th>
<th>TV3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988</td>
<td>1424</td>
<td>687</td>
<td>0</td>
<td>2111</td>
</tr>
<tr>
<td>1989</td>
<td>1790</td>
<td>890</td>
<td>132</td>
<td>2812</td>
</tr>
<tr>
<td>1990</td>
<td>2474</td>
<td>772</td>
<td>1003</td>
<td>4249</td>
</tr>
<tr>
<td>1991</td>
<td>1811</td>
<td>1016</td>
<td>1212</td>
<td>4039</td>
</tr>
<tr>
<td>1992</td>
<td>2526</td>
<td>1227</td>
<td>1962</td>
<td>5715</td>
</tr>
<tr>
<td>1993</td>
<td>2005</td>
<td>1042</td>
<td>1741</td>
<td>4788</td>
</tr>
</tbody>
</table>

Source: Statistics New Zealand (1995)
SCOPE OF SURVEY

The quarterly Population Survey Monitor (PSM) surveys conducted by the Australian Bureau of Statistics (ABS) generally cover rural and urban areas, excluding sparsely settled areas, across all States and Territories of Australia. All households within selected private dwellings are included in the survey. All persons residing in non-private dwellings are excluded. In addition, the following persons are normally excluded from the scope of the survey:

- diplomatic personnel of overseas governments and non-Australian members of their households;
- non-Australian service personnel stationed in Australia and their dependents;
- overseas visitors whose usual place of residence is outside Australia.

Non-Australians (other than those above) working in Australia, or in Australia as students or settlers, and their dependents are included in the survey.

SAMPLE DESIGN

For the typical PSM survey, a base sample of 2,700 private dwellings is initially chosen. After allowing for sample loss through factors such as vacant dwellings inadvertently selected in the sample, non-contacts, persons out of scope and so forth, a sample of this size is considered sufficient to provide:

- detailed information for Australia; and
- relatively detailed data for capital city/rest of state areas for Australia at an acceptable level of accuracy and reliability.

Details of the expected minimum sample for a typical quarterly PSM survey are set out below.

* The information for this appendix was provided by the Australian Bureau of Statistics which was commissioned to undertake the survey. The text is largely an adaptation and summary of that information.
ACTUAL SURVEY RESPONSE AND VALIDATION

A total of 3,156 households were visited for the November 1994 PSM which incorporated the questionnaire for this study. Completed questionnaires were obtained from 2,193 households. Data were not obtained from the remaining households for the following reasons:

- refusals — 323 households;
- vacant or under construction dwellings — 367 households;
- uncontactable during interview week — 205 households;
- death, illness or language problems — 68 households.

From the 2,193 fully responding households, details on attitudes to Australian films and TV were obtained from one person in each household, that is, a sample of 2,193 people.

Table III.1 below shows the proportion of the PSM sample by age and gender and the proportion of the Australian population by age and gender using Estimated Resident Population (ERP) figures. Some relatively small variation exists between the proportions from the PSM sample and the ERP. The difference between the proportion of males and females for this PSM sample is 48.8 and 51.2 per cent respectively compared to the proportion in the population of 49.2 and 50.8 per cent. This difference can occur for a variety of reasons such as sampling variability, exclusion of all persons living in non private dwellings and non response to the survey which is greater than 10 per cent. The differences should not significantly affect any analyses of the data because the age/gender weights adjust for sample variation in the age gender distribution and thus help to minimise the effect of any resultant bias.

<table>
<thead>
<tr>
<th>TABLE III.1</th>
<th>Proportion of the PSM Sample and ERP by Age and Gender - November 1994</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (yrs)</td>
<td>PSM %</td>
</tr>
<tr>
<td></td>
<td>Male</td>
</tr>
<tr>
<td>18-19</td>
<td>2.0</td>
</tr>
<tr>
<td>20-24</td>
<td>5.4</td>
</tr>
<tr>
<td>25-29</td>
<td>5.0</td>
</tr>
<tr>
<td>30-34</td>
<td>5.4</td>
</tr>
<tr>
<td>35-39</td>
<td>5.3</td>
</tr>
<tr>
<td>40-44</td>
<td>5.0</td>
</tr>
<tr>
<td>45-49</td>
<td>4.8</td>
</tr>
<tr>
<td>50-54</td>
<td>3.7</td>
</tr>
<tr>
<td>55-59</td>
<td>3.1</td>
</tr>
<tr>
<td>60-64</td>
<td>2.7</td>
</tr>
<tr>
<td>65-69</td>
<td>2.5</td>
</tr>
<tr>
<td>70-74</td>
<td>2.1</td>
</tr>
<tr>
<td>75+</td>
<td>2.2</td>
</tr>
<tr>
<td>Total</td>
<td>49.1</td>
</tr>
</tbody>
</table>
Validation of the PSM estimates include comparisons of labour force status, country of birth and marital status from the November 1994 Monthly Labour Force Survey. A summary of the comparisons is provided in table III.2.

**TABLE III.2 Selected Estimates from PSM and Monthly Labour Force (MLF) Survey for Those Aged 18 Years and Over - November 1994**

<table>
<thead>
<tr>
<th></th>
<th>PSM %</th>
<th>MLF %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Labour force status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed — Males</td>
<td>71.0</td>
<td>69.6</td>
</tr>
<tr>
<td>Employed — Females</td>
<td>52.1</td>
<td>50.1</td>
</tr>
<tr>
<td>Looking for work</td>
<td>5.2</td>
<td>5.2</td>
</tr>
<tr>
<td>Not in labour force</td>
<td>33.4</td>
<td>35.1</td>
</tr>
<tr>
<td><strong>Birthplace</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australian born</td>
<td>73.6</td>
<td>72.2</td>
</tr>
<tr>
<td>Born outside Australia</td>
<td>26.4</td>
<td>27.8</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married/defacto</td>
<td>65.8</td>
<td>64.5</td>
</tr>
<tr>
<td>Separated/divorced</td>
<td>12.8</td>
<td>13.0</td>
</tr>
<tr>
<td>Never married</td>
<td>21.4</td>
<td>22.5</td>
</tr>
</tbody>
</table>

**DATA COLLECTION**

Information was obtained in the PSM by trained ABS interviewers, using face to face personal interviews with an adult member of each selected household included in the survey.

**INTERVIEWS**

Selected households were initially approached by mail, informing them of their selection in the survey and advising them that an interviewer would call to arrange a suitable time to conduct the survey interview. A brochure, providing some background to the survey, information concerning the interview process and a guarantee of confidentiality was included with the initial approach letter. For a small number of households where the ABS did not have an adequate postal address, this was not possible.

At the initial visit by the interviewer, a household form was completed from information provided by a responsible adult member of the household. This form sought details of the number and basic demographic characteristics of the persons in the household and established those persons in scope of the survey.

In order to obtain a personal interview with appropriate respondents, interviewers made appointments to call-back as necessary to the household. In some cases appointments for call-backs were made by telephone. In all cases, however, interviews were
conducted face to face. Interviews were conducted in private or in the presence of other household members according to the wishes of the respondent.

INTERVIEWERS

Interviewers for the PSM were primarily recruited from a pool of trained interviewers with previous experience on ABS household surveys. Interviewers were allocated a number of dwellings (a workload) at which to conduct interviews. The size of the workload was dependant upon the geographical area and whether or not the interviewer was required to live away from home to collect the data. Interviewers residing close to their workload location in urban area usually had larger workloads than others. Overall, workloads averaged 30 to 40 dwellings, to be enumerated over a two week period.

The ABS sought the willing cooperation of selected households. Measures taken to encourage respondent cooperation and maximise response included an initial pre-survey contact by letter and a series of call-backs and follow-up as necessary.

Selected households were sent an initial letter, advising that their dwelling had been selected for the survey and explaining the purposes of the survey, its official nature and the confidentiality of the information collected. The letters gave advance notice that an ABS interviewer would call, and provide an ABS contact number for more information if required. The letter also stressed:

- the importance of participation in the survey by selected households. Each household selected represented a number of others like them in size, composition, location, occupation, and lifestyle. The cooperation of those selected was important to ensure all households/persons were properly represented in the survey.
- the importance of the survey to the planning and provision of services by the government.
- the confidentiality of all information collected. The confidentiality of data is guaranteed by the Census and Statistics Act 1905; under the provisions of this Act the ABS is prevented from releasing any identifiable information about individuals or households to any person, organisation or authority.

Much effort was devoted to contacting the occupants of each selected dwelling and conducting the survey in those dwellings. Interviewers made at least three call-backs in rural areas and at least five call-backs in urban areas before a dwelling was classified as 'non-contact'. Once contact had been made at a dwelling, the interviewer completed all necessary questionnaires. If any persons who were to be included in the survey were absent from the dwelling when the interviewer called, arrangements were made to return and interview them. Interviewers made return visits as necessary in order to complete questionnaires for all persons within the scope of the survey. In some cases, individual members of a household were not subsequently available for interview and these were classified as individual non-contacts.
DATA PROCESSING

A combination of clerical and computer-based systems are used to process data obtained in the survey. These are outlined below.

Clerical edits were initially applied by interviewers to ensure the completeness and consistency of the questionnaires before being returned to the ABS. Errors or omissions identified were not referred back to the respondent; rather, the interviewer made note of any such problems and provided additional comment about individual questionnaires as appropriate when returning the questionnaires to the ABS office for processing.

All questionnaires were again checked on receipt in the ABS office to ensure the interviewer workloads were fully accounted for and that all questionnaires and other documents for each household and respondent were completed. Problem issues identified by interviewers were resolved by office staff, where possible, based on other information contained in the schedule, or on the comments provided by interviewers.

An extensive range of computer edits was applied to each record on the file to check that logical sequences had been followed in the questionnaires, necessary items were present, that specific values lay within valid ranges and that relationships between items were within limits deemed acceptable for the purposes of this survey. The edits were designed to detect errors which may have occurred (e.g. during data entry, clerical coding or original recording of information by the interviewer or respondent) and to identify cases which although not necessarily errors, were sufficiently unusual or close to agreed limits as to warrant examination. Listings of all records involved were produced, which were then compared with the original questionnaires. Amendments were made to records on the computer file as required.

Information from the questionnaires was stored on the computer output file in the form of data items. In some cases, items were formed directly from information recorded in individual survey questions. Data items have also been derived from answers to several questions, while in still others, items have been derived from the reported information in conjunction with information obtained from other sources.

At the completion of each stage of computer processing, frequency counts and tables containing cross-classifications of selected data items were produced and used to check the contents of the data file. Any errors detected in the data were subsequently corrected.

ESTIMATION PROCEDURES

Estimates obtained from the survey were derived using a complex ratio estimation procedure which ensured that the survey estimates conform to an independently estimated distribution of the total population by age, gender and area rather than to the age-gender-area distribution within the sample itself).
BENCHMARKS

The age-gender-area (metropolitan/ex-metropolitan) benchmarks used in the estimation are based on population estimates, produced monthly by the ABS, for the middle month of each quarter of the survey.

WEIGHTS

To obtain person-based estimates, expansion factors or 'weights' are inserted into responding person's records to enable the data provided by these persons to be expanded to provide estimates relating to the whole population within the scope of the survey.

The randomly selected person weights applied for each quarter are based initially on the probability of selection which varied depending on the state/territory of enumeration and the number of other adult persons in the selected household. An adjustment based age-gender-area benchmarks is then made to these weights to ensure that the estimated population distribution from the survey conforms to the population distribution of the benchmarks.

The estimation procedure is designed to adjust estimates in such a way as to reduce the non-response bias by adjusting the weights of responding persons records in each age-gender-area cell to compensate for under-enumeration in that cell.

SAMPLING ERROR

Table III.3 gives details of the of typical standard errors associated with estimates using the weighted data from the November PSM.

<table>
<thead>
<tr>
<th>Size of estimate ('000)</th>
<th>Standard error ('000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>23</td>
</tr>
<tr>
<td>200</td>
<td>31</td>
</tr>
<tr>
<td>500</td>
<td>45</td>
</tr>
<tr>
<td>800</td>
<td>56</td>
</tr>
<tr>
<td>1000</td>
<td>59</td>
</tr>
<tr>
<td>2000</td>
<td>76</td>
</tr>
<tr>
<td>5000</td>
<td>105</td>
</tr>
</tbody>
</table>

The standard errors in table III.3 show that very small estimates are subject to high standard errors (relative to the size of the estimate) as to detract seriously from their value for most reasonable uses. Only estimates with relative standard errors of 25 per cent or less, and any percentages based on such estimates, are considered sufficiently
reliable for most purposes. Estimates which are subject to high relative standard errors, that is, greater than 25 per cent, should be used with caution.

The following examples demonstrate how to calculate and use the standard errors provided in table III.3.

Consider an estimate from the data set of 1,000,000 persons aged 18 years or more who were positive about Australian content on TV. By referring to table III.3, an estimate of 1,000,000 has a standard error of 59,000. This means there are about two chances in three that the true value (the value that would have been obtained if the whole population had been surveyed) is within the range 1,059,000 to 941,000. There are about 19 chances in 20 that the true value is in the range 1,118,000 to 882,000.
SECTION I: AUSTRALIAN FILMS & TV

THE NEXT FEW QUESTIONS SEEK YOUR VIEWS ON AUSTRALIAN TV.

1.1 Interviewer: Show CREAM card 18

HOW DO YOU FEEL ABOUT THE FOLLOWING STATEMENTS?

A). INTERNATIONAL SUCCESS OF AUSTRALIAN FILMS AND TV PROGRAMS GIVES PEOPLE A SENSE OF PRIDE IN AUSTRALIAN ACHIEVEMENT.

1. Strongly agree
2. Agree
3. Disagree
4. Strongly disagree
Neither
Don't know

B). AUSTRALIAN FILMS AND TV PROGRAMS SHOWING AUSTRALIAN STORIES, PLACES AND EVENTS ARE MORE MEANINGFUL TO ViewERS THAN IMPORTED FILMS AND TV PROGRAMS.

1. Strongly agree
2. Agree
3. Disagree
4. Strongly disagree
Neither
Don't know

C). AUSTRALIAN FILMS AND TV PROGRAMS IMPROVE OUR UNDERSTANDING OF OUR COUNTRY AND WAY OF LIFE.

1. Strongly agree
2. Agree
3. Disagree
4. Strongly disagree
Neither
Don't know

D). AUSTRALIAN FILMS AND TV PROGRAMS ARE PREFERABLE TO IMPORTED FILMS AND PROGRAMS OF THE SAME TYPE AND QUALITY.

1. Strongly agree
2. Agree
3. Disagree
4. Strongly disagree
Neither
Don't know

E). AUSTRALIAN TV WOULD APPEAL LESS IF FEWER AUSTRALIAN PROGRAMS WERE SHOWN.

1. Strongly agree
2. Agree
3. Disagree
4. Strongly disagree
Neither
Don't know

1.2 APPROXIMATELY HOW MANY TIMES DID YOU GO TO THE MOVIES IN THE LAST 12 MONTHS?

Nil or never go
1-2 times
3-4 times
5-6 times
7-12 times
13 or more times
Don't know

1.3 DOES YOUR HOUSEHOLD HAVE A VIDEO RECORDER?

Yes
No — 1.3

D 9
### 1.4 APPROXIMATELY HOW MANY VIDEOS DID YOUR HOUSEHOLD HIRE LAST MONTH?

- None
- 1-2
- 3-5
- 6-10
- 10 or more
- Don't know

### 1.5 Interviewer: Show ORANGE card 19

**WOULD KNOWING A GOOD QUALITY FILM WAS AUSTRALIAN INCREASE OR DECREASE YOUR DESIRE TO HIRE THE VIDEO OR SEE IT AT THE MOVIES?**

- Greatly increase
- Increase
- Have no influence
- Decrease
- Greatly decrease
- Don't know

### 1.6 ON AVERAGE HOW MANY HOURS OF TV WOULD YOU WATCH EACH DAY?

- Less than 1 hour
- 1 to less than 2 hours
- 2 to less than 3 hours
- 3 to less than 4 hours
- 4 to less than 5 hours
- 5 hours or more
- Don't watch TV
- Don't know

### 1.7 Interviewer: Show LILAC card 20

**IN WHICH OF THESE CATEGORIES WOULD YOU LIKE TO SEE AN INCREASE IN THE AMOUNT OF AUSTRALIAN PROGRAMS?**

- News, current affairs
- Documentaries
- Sports
- Movies
- Series / serials
- Light entertainment
- Game / panel shows
- Children's programs
- Other (Specify)
- None of the above

### 1.8 IN WHICH OF THESE CATEGORIES WOULD YOU LIKE TO SEE A DECREASE IN THE AMOUNT OF AUSTRALIAN PROGRAMS?

- News, current affairs
- Documentaries
- Sports
- Movies
- Series / serials
- Light entertainment
- Game / panel shows
- Children's programs
- Other (Specify)
- None of the above
1.9 WHICH OF THE FOLLOWING TYPES OF PROGRAMS DO YOU WATCH REGULARLY?

1. News, current affairs
2. Documentaries
3. Sports
4. Movies
5. Series / serials
6. Light entertainment
7. Game / panel shows
8. Children's programs
9. Other (Specify)
10. None of the above

1.10 *Interviewer: Show BLUE card 21*

1.11 ON AVERAGE EACH HOUSEHOLD PAYS ABOUT $120 A YEAR IN TAXES AND INCREASED PRICES FOR ADVERTISED GOODS TO FINANCE AUSTRALIAN TV PROGRAMS.

A). THE AVAILABILITY OF AUSTRALIAN TV PROGRAMS IS IMPORTANT FOR THE PRESERVATION OF THE AUSTRALIAN WAY OF LIFE.

1. Strongly agree
2. Agree
3. Disagree
4. Strongly disagree
Neither agree or disagree
Don't know

B). AUSTRALIAN CHILDREN'S PROGRAMS ARE MORE MEANINGFUL TO CHILDREN THAN IMPORTED CHILDREN'S PROGRAMS.

1. Strongly agree
2. Agree
3. Disagree
4. Strongly disagree
Neither agree or disagree
Don't know

C). AUSTRALIAN TV PROGRAMS BENEFIT ALL AUSTRALIANS.

1. Strongly agree
2. Agree
3. Disagree
4. Strongly disagree
Neither agree or disagree
Don't know

D). ALL AUSTRALIANS SHOULD CONTRIBUTE FINANCIALLY TO SUPPORT THE PRODUCTION OF AUSTRALIAN TV PROGRAMS.

1. Strongly agree
2. Agree
3. Disagree
4. Strongly disagree
Neither agree or disagree
Don't know

* CONSIDERING THE BENEFITS YOUR HOUSEHOLD AND THE COMMUNITY GET FROM AUSTRALIAN PROGRAMS, DO YOU THINK THIS AMOUNT SHOULD BE INCREASED, DECREASED OR STAY THE SAME?

Increased
Decreased
Stay the same
Don't know
### 1.12 Interviewer: Show PINK card 22

**WHAT IS THE MOST YOUR HOUSEHOLD WOULD BE PREPARED TO PAY IN INCREASED PRICES AND TAXES EACH YEAR TO RETAIN THE CURRENT AMOUNT OF AUSTRALIAN PROGRAMS ON TV?**

**Dollars**:  
- Nil  
- Don't know

### 1.13 Interviewer: Show YELLOW card 23

**THIS CARD SHOWS HOW THE $120 IS ALLOCATED TO DIFFERENT TYPES OF PROGRAMS.**

**DO YOU THINK THE ALLOCATION SHOULD CHANGE?**

- Yes
- No → 1.16
- Don't know → 1.16

### 1.14 WHICH PROGRAMS SHOULD RECEIVE A HIGHER ALLOCATION?

1. News, current affairs  
2. Sport  
3. Drama (series / serials)  
4. Light entertainment  
5. Children's programs  
6. Documentaries  
7. Other

None of the above

### 1.15 WHICH PROGRAMS SHOULD RECEIVE A LOWER ALLOCATION?

1. News, current affairs  
2. Sport  
3. Drama (series / serials)  
4. Light entertainment  
5. Children’s programs  
6. Documentaries  
7. Other

None of the above

### 1.16 EVEN IF YOU DON'T WATCH MANY AUSTRALIAN TV PROGRAMS, WOULD YOUR HOUSEHOLD BE PREPARED TO PAY AN EXTRA $12 EACH YEAR, IN INCREASED PRICES AND TAXES, FOR A 10% INCREASE IN AUSTRALIAN PROGRAMS?

- Yes → 1.17
- No → 1.18
- Nil → 1.20
- Don't know → 1.20

### 1.17 WOULD YOUR HOUSEHOLD BE PREPARED TO PAY MORE THAN $12 EACH YEAR IF THIS AMOUNT HAD TO REALLY BE PAID?

- Yes → 1.19
- No
- Don't know

### 1.18 WOULD YOUR HOUSEHOLD BE PREPARED TO PAY LESS THAN $12 EACH YEAR?

- Yes
- No → 1.20
- Don't know → 1.20

### 1.19 WOULD YOUR HOUSEHOLD BE PREPARED TO PAY MORE THAN $12 EACH YEAR IF THIS AMOUNT HAD TO REALLY BE PAID?

- Yes
- No
- Don't know
### 1.19 WHAT IS THE MAXIMUM YOUR HOUSEHOLD WOULD BE PREPARED TO PAY EACH YEAR?

<table>
<thead>
<tr>
<th>Response</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dollars</td>
<td>997</td>
</tr>
<tr>
<td>Less than $1.00</td>
<td>998</td>
</tr>
<tr>
<td>Nil</td>
<td>999</td>
</tr>
<tr>
<td>Don’t know</td>
<td></td>
</tr>
</tbody>
</table>

### 1.20 Interview: Show GREY card 24

IF THE GOVERNMENT DECIDED TO INCREASE ANNUAL SPENDING ON AUSTRALIAN PROGRAMS BY $10 PER HOUSEHOLD, HOW MUCH WOULD YOU GIVE TO THESE CATEGORIES?

*Interviewer: Use A if response in $ or B if response in %.

#### A). RESPONSE IN DOLLARS.

1. News, current affairs
   - a
2. Sport
   - b
3. Drama (series / serials)
   - c
4. Light entertainment
   - d
5. Children’s programs
   - e
6. Documentaries
   - f
7. Other (Specify)
   - g
8. Same amount to each
   - h 998
   - i 999

   Don’t know

#### B). RESPONSE IN PER CENT.

1. News, current affairs
   - a
2. Sport
   - b
3. Drama (series / serials)
   - c
4. Light entertainment
   - d
5. Children’s programs
   - e
6. Documentaries
   - f
7. Other (Specify)
   - g
8. Same amount to each
   - h 997
   - Same % distribution as on prompt card
   - i 998
   - Don’t know
   - f 999
APPENDIX V ESTIMATES OF AUSTRALIAN TELEVISION PROGRAMS EXPENDITURE

The estimates of the aggregate annual expenditure on Australian television programs were derived primarily from information supplied by the Australian Broadcasting Authority (ABA 1994c) with respect to commercial television services and from published data with respect to the Australian Broadcasting Corporation (ABC 1993). Expenditure data on Australian programs by the Special Broadcasting Service (SBS) are not readily available. However, given that the total programs related expenditure of the SBS (including radio) amounted to approximately $25 million (SBS 1993) and that less than a third of such expenditure is likely to be associated with Australian programs, its exclusion is unlikely to have a significant impact on the estimates.

Table V.1 gives details of the ABC’s program expenditure by genre for the year 1991-92. It also provides details of the estimated proportion of the expenditure in each program category likely to be attributable to Australian programs. The proportion was estimated from data on the Australian proportion of the total hours of programming in each category (ABC 1993) adjusted for the relative cost of domestic and imported programs. The cost adjustments were significant only with regard to drama, documentaries and features, and to a lesser extent children’s programs and were based on the average cost per hour paid for domestic and imported programs by commercial networks for the relevant category.

<table>
<thead>
<tr>
<th>Program category</th>
<th>Total expenditure* $mil</th>
<th>Estimated proportion of Australian %</th>
<th>Estimated expenditure on Australian $mil</th>
</tr>
</thead>
<tbody>
<tr>
<td>News &amp; current affairs</td>
<td>97.3</td>
<td>100.0</td>
<td>97.3</td>
</tr>
<tr>
<td>Drama</td>
<td>47.5</td>
<td>66.7</td>
<td>31.6</td>
</tr>
<tr>
<td>Children’s &amp; educational</td>
<td>32.0</td>
<td>73.0</td>
<td>23.4</td>
</tr>
<tr>
<td>Documentaries</td>
<td>19.0</td>
<td>40.0</td>
<td>7.6</td>
</tr>
<tr>
<td>Features</td>
<td>13.7</td>
<td>30.0</td>
<td>4.1</td>
</tr>
<tr>
<td>Sport</td>
<td>17.9</td>
<td>63.0</td>
<td>11.3</td>
</tr>
<tr>
<td>Arts and entertainment</td>
<td>20.2</td>
<td>40.0</td>
<td>8.1</td>
</tr>
<tr>
<td>Comedy</td>
<td>14.8</td>
<td>36.0</td>
<td>5.3</td>
</tr>
<tr>
<td>Other specialist</td>
<td>6.6</td>
<td>20.0</td>
<td>1.3</td>
</tr>
<tr>
<td>All Programs</td>
<td>269.0</td>
<td></td>
<td>190.0</td>
</tr>
</tbody>
</table>

* source of information, BTCE(1993).

Details of the expenditure on Australian programs by commercial networks were provided by the ABA (1994c). Details of the expenditure by program category are summarised in table V.2.
TABLE V.2: Expenditure on Australian Programs by Commercial Networks

<table>
<thead>
<tr>
<th>Program category</th>
<th>Expenditure $mil</th>
</tr>
</thead>
<tbody>
<tr>
<td>News &amp; current affairs</td>
<td>154.7</td>
</tr>
<tr>
<td>Sport</td>
<td>150</td>
</tr>
<tr>
<td>Drama</td>
<td>89</td>
</tr>
<tr>
<td>Light Entertainment</td>
<td>74.8</td>
</tr>
<tr>
<td>Documentaries</td>
<td>17.9</td>
</tr>
<tr>
<td>Children’s</td>
<td>12.8</td>
</tr>
<tr>
<td>Other</td>
<td>18.4</td>
</tr>
<tr>
<td>All programs</td>
<td>517.6</td>
</tr>
</tbody>
</table>

Source: Australian Broadcasting Authority (1994c)

The aggregate expenditure by the ABC and the commercial networks is detailed in table V.3. As the ABC and commercial networks use different definitions for some program categories, a number of adjustments were necessary to derive useful aggregates. The adjustments are listed in the table. The estimated expenditure per household was derived by dividing the aggregate expenditure by the estimated number of television households (5.9 million).

TABLE V.3: Aggregate Expenditure on Australian Programs by the ABC and Commercial Networks

<table>
<thead>
<tr>
<th>Program category</th>
<th>ABC $mil</th>
<th>Commercial $mil</th>
<th>All $mil</th>
<th>$per Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>News &amp; current affairs</td>
<td>97.3</td>
<td>154.7</td>
<td>252.0</td>
<td>42.7</td>
</tr>
<tr>
<td>Sport</td>
<td>11.3</td>
<td>150.0</td>
<td>161.3</td>
<td>27.3</td>
</tr>
<tr>
<td>Drama</td>
<td>31.6</td>
<td>89.0</td>
<td>120.6</td>
<td>20.4</td>
</tr>
<tr>
<td>Light entertainment (a)</td>
<td>5.3</td>
<td>74.8</td>
<td>80.1</td>
<td>13.6</td>
</tr>
<tr>
<td>Documentaries (b)</td>
<td>11.7</td>
<td>17.9</td>
<td>29.6</td>
<td>5.0</td>
</tr>
<tr>
<td>Children’s</td>
<td>23.4</td>
<td>12.8</td>
<td>36.2</td>
<td>6.1</td>
</tr>
<tr>
<td>Other (c)</td>
<td>9.4</td>
<td>18.4</td>
<td>27.8</td>
<td>4.7</td>
</tr>
<tr>
<td>All programs</td>
<td>190.0</td>
<td>517.6</td>
<td>707.6</td>
<td>119.9</td>
</tr>
</tbody>
</table>

Note: estimated television households = 5.9 million
(a) Comedy for ABC
(b) Includes features for ABC
(c) Arts and Other specialist for ABC
(d) Inclusion of estimated expenditure by SBS would increase the total to approximately $715 million. It is not possible to derive estimates of SBS expenditure by category. For use in the survey questionnaire and ‘prompt’ cards, the expenditure per household data were rounded to the nearest whole dollar.
APPENDIX VI LOGISTIC REGRESSION MODEL

Most of the questions posed in the valuation survey elicited categorical responses. The usual approach in the analysis of such data is to adopt a probabilistic regression model to determine the relationship between the outcome and a set of independent variables (covariates). The logistic regression model has been widely used in such situations and has been adopted for the analysis of this study.

Three variants of the model have been used to analyse different aspects of the survey, depending on the form of the response variable. Each is described below. The same set of covariates was used with each variant of the model. The regression analysis was performed with SAS software.

The first variant of the model was applied to situations involving binary response variables. Most of the data collected in the survey were either in this form or could be readily converted to it. For example, questions seeking to identify the level of agreement or disagreement with statements put to them were easily converted to the binary form of 'agreed with the statement'/'did not agree with the statement'. The model was then used to determine the impact that the independent variables had on the probability of a respondent giving the response of interest rather than the alternative.

The model assumes that the underlying response variable $y_i^*$ is defined by the regression relationship

$$y_i^* = \alpha + \beta x_i + u_i,$$

where $\alpha$ is a constant, $\beta$ is a set of parameters and $u_i$ is an error term assumed to have mean of zero, unit variance and a logistic cumulative distribution.

However $y_i^*$ is not observable. What is observable is a dummy variable $y$ which takes the binary values 1 and 0 as follows:

$$y = 1 \text{ if } y_i^* > 0 \quad (\text{or } y_i^* > \theta, \text{ where } \theta \text{ is some critical value});$$

$$y = 0 \text{ otherwise } (\text{or } y_i^* = \theta \text{ otherwise}).$$

From these relationships it follows that:

the probability $\rho(y_i = 1) = \rho(u_i > - (\alpha + \beta x_i))$

$$= 1 - F(- (\alpha + \beta x_i)),$$

where, $F$ is the cumulative distribution function for $u_i$.

---

1 For details on qualitative response models and logistic regression see Amemiya (1981), Maddala (1983) and Hosmer and Lemeshow (1989).
2 The derivation presented here follows Maddala (1983).
The logistic probability function has the following general form:

\[ F(w) = \frac{e^w}{1 + e^w} \]

Substituting \(- (\alpha + \beta x_i)\) for \(w\)

\[ F(- (\alpha + \beta x_i)) = \frac{e^{- (\alpha + \beta x_i)}}{1 + e^{- (\alpha + \beta x_i)}} = \frac{1}{1 + e^{-(\alpha + \beta x_i)}}. \]

Hence,

\[ \rho(y_i = 1) = 1 - F(- (\alpha + \beta x_i)) = \frac{e^{(\alpha + \beta x_i)}}{1 + e^{(\alpha + \beta x_i)}}. \]

The linear logistic regression model is based on the logit transformation

\[ \text{logit}(\rho_i) = \log(\rho_i / (1 - \rho_i)), \]

where:

\( \rho_i = \text{probability}(y_i = y_i | x_i) \) is the response probability to be modelled and \( y_i \) is the outcome of interest of the response variable \( y \).

The logistic regression model, thus has the form:

\[ \text{logit}(\hat{\rho}) = \log(\hat{\rho} / (1 - \hat{\rho})) = \alpha + \beta x_i + u_i, \]

where:

\( \hat{\rho} \) is the estimated probability;
\( \alpha \) is the intercept parameter;
\( \beta \) is the vector of slope parameters;
\( x \) is the vector of explanatory variables; and
\( u_i \) is an error term with a mean of zero, unit variance and a logistic cumulative distribution.

After estimation of the parameters with the model the probability \( \hat{\rho} \) may be calculated by substituting for the parameters in \( \hat{\rho} = e^a / (1 + e^a) \), where \( a = \alpha + \beta x_i \).

For some questions there was an interest to analyse the relationship between covariates and more than one of the response levels. For example, each of the three possible responses to the question seeking the respondents' opinions on whether current expenditure on Australian programs should be 'increased', 'decreased' or 'stay the same', were of interest. In such cases, an ordinal response logistic regression model was used for the analysis.
The SAS software fits a parallel lines regression model that assumes a common slope parameter associated with the covariates. The model is based on the cumulative distribution probabilities of the response categories. The model is also referred to as the 'proportional odds model' because it assumes that the odds ratio is constant for all the response categories (SAS Institute Inc. 1989 and 1995).

In a response variable with three levels of response, with probability $\rho_i$, the model is of the form:

$$\text{logit} (\rho_i) = \log (\rho_i/(1 - \rho_i)) = \alpha_i + \beta x + u_i$$

$$\text{logit} (\rho_1 + \rho_2) = \log ((\rho_1 + \rho_2)/(1 - \rho_1 - \rho_2)) = \alpha_2 + \beta x + u_{i2}.$$ 

As before,

$$\rho_1 = e^{\alpha_1}/(1 + e^{\alpha_1});$$
$$\rho_1 + \rho_2 = e^{\alpha_2}/(1 + e^{\alpha_2});$$ and
$$\rho_3 = 1 - \rho_1 - \rho_2.$$

where:

$$a_1 = \alpha_1 + \beta x, \text{ and}$$
$$a_2 = \alpha_2 + \beta x.$$ 

The proportional odds assumption was found to be invalid when an ordinal response model was used to analyse their responses to a variable derived from the responses to the survey relating to the willingness of respondents to pay for a 10 per cent increase in Australian programming. The responses could take one of four possible levels, namely, willing to pay nothing, willing to pay an amount less than $12, willing to pay $12, and willing to pay more than $12.

To overcome the problem, a sequential logistic regression model was used for the analysis. Each of the steps in the sequential model was reduced to regression with a binary response variable. In the first step, the model was used to estimate the probability of respondents willing to pay something (paysome) vis à vis not willing to pay anything. In the second step, a logistic regression was used to estimate the probability that those in the paysome group were willing to pay at least $12 (pay12). In the third and final step, the model was used to estimate the probability of those in the pay12 group were willing to pay more than $12 (paymore). The sequence is illustrated below.
The logit for each step of the model has the same general form given above for a binary response model. In this case, however, only the probability of the paysome outcomes can be calculated directly from the parameters estimated in the first step of the model. The probabilities of the events in the subsequent steps are all conditional on the outcomes in the preceding steps. For example, the probability that a respondent gives a yes response in the pay12 step is conditional upon having given a yes response in the paysome step.

More generally using a similar notation to that used above,

$$P_{\text{paysome}} = F(\alpha_{\text{paysome}} + \beta_{\text{paysome}}x)$$

$$P_{\text{pay12}} = F(\alpha_{\text{paysome}} + \beta_{\text{paysome}}x).F(\alpha_{\text{pay12}} + \beta_{\text{pay12}}x)$$

$$P_{\text{paymore}} = F(\alpha_{\text{paysome}} + \beta_{\text{paysome}}x).F(\alpha_{\text{pay12}} + \beta_{\text{pay12}}x).F(\alpha_{\text{paymore}} + \beta_{\text{paymore}}x).$$

Each of the components of the appropriate probability is calculated from the parameter estimates produced in the respective step of the model.
REFERENCES

ABA  Australian Broadcasting Authority
ABC  Australian Broadcasting Corporation
ABCB Australian Broadcasting Control Board
ABS  Australian Bureau of Statistics
ABT  Australian Broadcasting Tribunal
BTCE Bureau of Transport and Communications Economics
CEASA Commercial Economic Advisory Service of Australia
IAC  Industries Assistance Commission
ITC  Independent Television Commission
NOAA National Oceanic and Atmospheric Administration (US)
OECD Organisation for Economic Co-operation and Development
SBS  Special Broadcasting Service (Australia)
TBI  Television Business International


ABA 1994c, Personal Communication.


ABA 1996a, Personal Communication.


ABT 1992c, *What we Want from our TVs*, Monograph Series, no. 4, ABT, Sydney.


*Australian Content Standard* (Australian Broadcasting Authority).


*Broadcasting and Television Act 1942* (Australia).

Broadcasting Services Act 1992 (Australia).


BTCE 1994, “New Forms and New Media: Commercial and Cultural Policy Implications”, Communications Futures Project, BTCE, Canberra (Work-in-Progress Paper no. 3)


*Census and Statistics Act 1905* (Australia).

*Children’s Television Standards* 1989 (Australian Broadcasting Tribunal).


Explanatory Memorandum to *Broadcasting Services Act 1992* (Australia).


Marshall, F. 1993, Marketing Services Director, Seven Network, Statement at 8th Annual Screen Producers Association of Australia Conference, Canberra, 18-20 November.


Moran, A. 1993, Moran’s Guide to Australian TV Series, Australian Film Television and Radio School, North Ryde, NSW.


Screen Digest 1994, June.


Special Broadcasting Service Act 1991 (Australia).


Television Broadcasting Regulations 1987 (Canada).


Vincent Committee 1963, see Senate Select Committee on the Encouragement of Australian Productions for Television, 1963.


