

What are our stories worth?

Measuring the economic and cultural value
of Australia's screen sector

Glossary

ABC	Australian Broadcasting Corporation
ABS	Australian Bureau of Statistics
ACMA	Australian Communications and Media Authority
AHEDA	Australian Home Entertainment Distributors Association
ASTRA	Australian Subscription Television and Radio Association
CV	Contingent Valuation
DVD	Digital Versatile Disc
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortisation
FTE	Full-time equivalent
GDA	Game Developers' Association of Australia
GDP	Gross Domestic Product
GOS	Gross Operating Surplus
IGEA	Interactive Games & Entertainment Association
IMAX	Image Maximum
IO	Input Output
MEAA	Media Entertainment & Arts Alliance
MPDAA	Motion Picture Distributors Association of Australia
NAIDOC	National Aboriginal and Islander Day Observance Committee
OECD	Organisation for Economic Co-operation and Development
PC	Personal computer
PDV	Post, Digital and Visual Effects
SBS	Special Broadcasting Service
SOCOG	Sydney Organising Committee for the Olympic Games
SVOD	Subscription Video on Demand
TRA	Tourism Research Australia
TV	Television
UK	United Kingdom
US	United States
VHS	Video Home System
VOD	Video on demand

Key findings



Economic contribution 2014–15

\$3,072 million in value add
25,304 FTE jobs

Broad screen content

\$3,072 million in value add
25,304 FTE jobs

Core screen content

\$847 million in value add
7,650 FTE jobs

Footloose production

\$382 million in value add
4,093 FTE jobs

Digital games production

\$123 million in value add
1,053 FTE jobs



Exports and tourism 2014–15

Exports

\$252 million
in total export
earnings from core
screen content

Tourism

\$725 million in
tourism expenditure
associated with
broad screen
content



Audience value 2014–15

\$17.4 billion in total audience value of broad screen content



Cultural value

Option value

\$511 million a year

Existence/ altruism value

\$415 million a year

Public support value

\$1.02 billion a year

Executive summary

The Australian screen sector plays a significant role in the economy in terms of its contribution to GDP and to national employment, as well as its economic contribution to downstream industries such as exhibition and retail, and to ancillary sectors such as tourism. The Australian screen sector is also an enduring component of Australia's cultural identity. Indeed, screen content also stands apart from all other Australian cultural products in its unparalleled ability to reach large audiences, both domestically and abroad.

The importance of its contributions in these areas are widely recognised by government, which is why the sector is supported through funding and regulation. However, the nature and size of these contributions in economic terms has never been fully recognised until now.

Screen Australia engaged Deloitte Access Economics to develop a framework capable of comprehensively capturing the value generated by the Australian screen sector. The framework considered this value across a number of dimensions – economic, audience and cultural.

Australian screen content is a significant contributor to the nation in terms of gross domestic product and jobs, and well-positioned to help grow Australia's creative economy.

The Australian screen sector contributes significantly to national gross domestic product and employment (which are more traditional measures of a sector's value to an economy). Content is created by the production subsector, enters the distribution subsector and is purchased in the exhibition, free-to-air TV, pay TV, retail, rental and online subsectors.

Australian TV content encompasses a wide range of production activity – it includes fictional or drama production (such as mini-series, drama shows, comedy shows and children's TV shows), as well as factual documentaries. The remainder is allocated to content such as news, current affairs, light entertainment, reality, and sport. Likewise, feature film content in Australia covers a range of content – from ones with large international releases to ones that have been domestic box office and/or critical successes to more low-budget films and films with limited local releases.

This study focussed in on the 'Australian' fabric of the wider screen industry, examining the value generated by screen content developed under the creative control of Australians.¹ We note that this study is not a full benefit-cost analysis and doesn't look at potential costs associated with screen consumption.

Two definitions were employed. The first definition, **Broad Australian content**, is screen content that is made under the creative control of Australians, which includes feature film, **drama TV and documentaries as well as other types of screen content**. This includes (but is not limited to) news and current affairs, light entertainment, reality shows, lifestyle/food/travel shows and televised sports content.

In 2014-15, the total economic contribution of the Australian screen sector for Broad Australian content is an estimated **\$2.6 billion in value add and almost 20,160 in FTE jobs**. This total value add is the equivalent

¹ Previous studies have estimated the overall size of the screen size of screen sectors in Australia. For example, see Deloitte Access Economics (2015a) "Economic contribution of the film and television industry in Australia", a prepared for the Australian Screen Association; and "Economic contribution of screen production in South Australia", reported prepared for the South Australian Film Corporation Deloitte Access Economics (2015b).

of around 5% of Australia's information media and telecommunications industry or **18% of its arts and recreation services**.²

The second definition, **Core Australian content**, is screen content made under the creative control of Australians and is scripted, narrative content, capturing **feature film, drama TV and documentaries only**.³ As such, Core screen content sits within the scope of Broad screen content.

In 2014-15, the total economic contribution of the Australian screen sector for Core Australian content is an estimated **\$847 million in value add⁴ and 7,650 in full-time equivalent (FTE) jobs**. This total value add is the equivalent of around 7% of Australia's arts and recreation services industry. Free-to-air (\$212 million) and film and television production (\$153 million) were the largest contributing subsectors to estimated direct value add, with the production subsector the greatest contributor to employment (2,683 in estimated FTE jobs).

International footloose productions hire skilled Australian workers

Additional to the contributions already identified are those generated for the Australian economy through footloose productions – that is, television and film production activity occurring in Australia as a result of large budget, international-studio financed productions choosing to film in Australia instead of elsewhere.

The total economic contribution of footloose productions in Australia for 2014-15 is estimated at **\$382 million in total value add and around 4,090 in FTE jobs**. The benefits of this activity are largely derived through labour **income paid to Australian creative talent (i.e. cast and crew)** and indirectly through the reach of supply chains into other sectors.

The 2014-15 year was an unusually large year for Australia (with \$418 million in foreign spending across the feature film and TV drama slate), with the five year average being \$196 million from 2010-11 to 2014-15.⁵

There are export opportunities for the content created locally by Australians

In 2014-15, total export earnings from **Core Australian content** were approximately **\$252 million⁶** (approximately equivalent in size to Australia's sugar and honey product exports or a tenth of medicinal and pharmaceutical product exports in 2014-15). This comprises mainly international box office earnings that accrue to Australia, although international royalties was also a significant export sources.⁷

- 2 Information media and telecommunications incorporates publishing and broadcasting (including internet), motion picture and sound recording, internet and data processing services, library and information services and telecommunication services. Arts and recreation services incorporates heritage activities, creative and performing arts, sports and recreation services and gambling services.
- 3 Core Australian content is a key focus of Screen Australia. This includes Australia's feature films (e.g. *Mad Max: Fury Road*, *The Dressmaker*); documentary films (e.g. *That Sugar Film*, *Frackman*); TV documentaries (e.g. *First Contact*, *Go Back To Where You Came From*); TV drama, which encompasses a diverse range of content, such as mini-series (e.g. *The Secret River*, *Deadline Gallipoli*), dramas (e.g. *Jack Irish*, *Underbelly*), comedy shows (e.g. *Upper Middle Bogan*, *The Family Law*) and children's TV shows (e.g. *Nowhere Boys*, *Dance Academy*).
- 4 Value add measures the value of output (i.e. goods and services) generated by the entity's factors of production (i.e. labour and capital) as measured by the income to those factors of production. The sum of value add across all entities in the economy equals gross domestic product.
- 5 Screen Australia (2015a) Drama Report data on footloose production expenditure..
- 6 It should be noted that these export earnings are not additive with the economic contribution figures for Broad and Core, as they are revenue to the sector that has already been counted in the contribution estimates.
- 7 The licence fee data used in this analysis only takes into account Screen Australia funded first releases, meaning that the export earnings figure here should be interpreted as a lower bound on export earnings. Exports of Core Australian content are likely to be even higher than presented here.

Australian screen content also includes digital games content produced in Australia.⁸ Game developers in Australia are predominantly small to medium-sized independent studios and studios of international publishers. The games they produce are primarily exported to the global market. In 2014-15, the total economic contribution of digital game production in Australia was around **\$123 million in value add and almost 1,055 in FTE jobs**.⁹

Taken together, the Broad screen sector, digital games production and footloose production contribute **over \$3 billion in value add and around 25,300 in FTE jobs**. This is in contrast to the modest funding the screen sector receives from government sources.

The role of advertising

While not examined in terms of its economic contribution, the advertising industry also plays an important role with regards to Australian screen sector activities. Advertising:

- Funds a significant amount of Broad and Core screen content, such as through advertising revenue earned by free-to-air TV broadcasts. According to ZenithOptimedia forecasts, Australia's television advertising revenue is expected to reach just under \$4 billion in 2016 (Mason, 2016).
- Serves as an important adjacency to the production subsector, as cast and crew employed in the Broad and Core screen sector also earn income from advertising work and many technical and creative screen professionals that eventually end up in Australian film and TV productions were initially trained through working on advertisements.

Australian-produced content dominates in terms of free-to-air television ratings. According to consolidated OzTam ratings data across five metropolitan markets (Sydney, Melbourne, Brisbane, Adelaide and Perth), the highest rated non-sports shows were the final episodes of *MasterChef*, *My Kitchen Rules* and *The Block*, with 2 million views and over (Knox, 2016a). In light of this, it is apparent that Australian content is associated with a large amount of advertising revenue which accrues to the commercial free-to-air television subsector.

The exposure of Australian content to international audiences is also powerful in strengthening the brand value of Australia, assisting it to grow a compelling image as a destination for tourism.

The value of screen in drawing tourists to visit a particular destination is widely acknowledged.¹⁰ This trend is called "set-jetting", where screen reaches the mass population, drawing them to a destination or attraction specifically to visit a location where a film or TV program was shot. Screen can even drive tourist visitation through its portrayal of the features and characteristics of the destination in which shoot itself takes place (e.g. landscapes and attractions). Australian screen content, screen actors and practitioners with a strong international profile can also help promote the Australian brand and bring attention to the country as a potential location for tourism.

A survey commissioned by Deloitte Access Economics for this study reveals that around **230,000 international tourists** are estimated to visit or extend their stay in Australia each year as a result of viewing Australian film and TV content. This represents around **\$725 million in estimated tourism expenditure in Australia each year** that may be associated with Australian screen content.

⁸ This includes content produced for mobile and tablet games (e.g. Flight Control, Real Racing, Fruit Ninja, Crossy Road) and PC and console games (e.g. Don Bradman Cricket, Rugby League Live 3).

⁹ This figure relates to the production of digital games alone and does not include publishers/distributors and retail, rental or online subsectors that are further along the value chain for the Australian games sector.

¹⁰ For example, see Olsberg SPI, 2015; Olsberg SPI & Nordicity, 2015; Nordicity, 2013; Beeton, 2006.

This suggests that screen content as a driver of tourism is comparable to other iconic drivers and may be a significant driver of tourism to the country. For example, a Deloitte Access Economic (2013a) report on the Sydney Opera House found that the Sydney Opera House could be responsible for around \$640 million of tourism expenditure in Sydney in 2012–13.¹¹

There is more to the value of Australian screen content than observable market transactions. Domestic audiences also gain surplus value that far exceeds the economic contributions, exports and tourism expenditure values.

The value of Australian screen content extends beyond the earnings it accrues from market transactions or its value add and employment. Australian film and TV content also generates significant entertainment and leisure value to domestic audiences. This value to audiences can be estimated as a monetary value.

The value of screen content to audiences can be measured in two ways. Firstly, it can be measured as a combination of revenue from consumers to the screen sector, such as ticket sales, combined with any 'consumer surplus' benefit above what people paid. Secondly, it can be measured by the value of time spent watching Australian screen content, which is particularly useful in instances where the content is free to watch.

Using a mixture of these two approaches, this report finds that the total audience value of Australia's Broad film and TV content viewing in 2014-15 was approximately **\$17.4 billion in consumer welfare benefit, almost seven times the size of the total value add for Broad Australian content**. Moreover, by way of comparison, total Australian industry value added in 2014-15 was around \$12.8 billion for arts and recreation services.

Australian screen content is considered unique

In estimating the audience value, it was found that Australian screen content was unique – almost two thirds (64%) of Australian film and TV content was considered to be 'fairly', 'very' or 'completely' different from foreign content based on qualities such as storyline, setting, acting music and camera work.

Further still, Australian screen content generates a valuable contribution to the cultural landscape – widely recognised, though a value indirectly measured through people's appraisal of Australian film and television.

Cultural value generated by Australian screen content has value in terms of its contribution to the overall cultural environment of the country. For example, local film and TV can support creative and artistic ventures, such as the acting, music, writing and set design.

The value of individuals personally having the option of viewing Australian content in the future – known as the "option value" – is estimated to be approximately **\$511 million** a year. Similarly, the value that individuals place on other people being able to watch Australian content in the future – known as the "existence" or "altruism value" – is estimated to be approximately **\$415 million** a year.

11 It should be noted that while this is not directly comparable with the screen-induced tourism expenditure across entire country due to the fact that the Sydney Opera House report reports the amount of expenditure attributable to only Sydney tourism expenditure, this provides a point of comparison between tourism attributable to screen content and a major driver of tourism in Australia.

12 It should be noted that public support value for Australian TV and film content can also be affected by a number of factors – for example, respondents may think that higher levels of government support will reduce the purchasing price of future Australian films and TV shows.

Further, when individuals were asked how much government should allocate between film and TV and a maximum of a \$100 tax cut in the survey, the results suggests that the total public support value of Australian film and TV to be approximately **\$1.02 billion** a year.¹²

For comparison, direct funding from government sources for Australian feature film and drama TV in production in 2014-15 was approximately \$58 million, support through the Producer Offset came to \$77 million and the PDV Offset for TV was over \$7 million.¹³ In addition, documentaries received \$25 million in direct funding and \$18 million through the Producer Offset in 2014-15.¹⁴ Further, government expenditure in 2014-15 in public broadcasting came to around \$1.43 billion.¹⁵

Deloitte Access Economics

13 Screen Australia (2015a) Drama Report data on funding sources for feature film and drama TV.

14 Screen Australia (2016b) "Documentary Finance", <http://www.screenaustralia.gov.au/fact-finders/production-trends/documentary-production/sources-of-finance>

15 Australian Government (2016). It should be noted that this also includes the radio and internet services of the ABC and SBS, as well as their transmission and distribution services. As such, it is not a directly comparable with the public support value estimated in this report.





1. Introduction

Deloitte Access Economic was commissioned by Screen Australia to estimate the economic and cultural value of Australia's screen sector. This study assesses the Australian screen sector's contribution to Australia through a number of dimensions, including its contribution to employment and gross domestic product, to exports and tourism, and the audience and cultural value of Australian screen content.

The Australian screen sector is recognised as an enduring and dynamic component of the national economy with close linkages to various economic inputs including skilled employment, digital technology and innovation. Screen production alone stimulates significant activity, employing numerous skilled and creative workers, such as performers, designers, directors, producers and technical cast and crew. Further, the screen sector can be viewed as an entire supply chain, from development through to distribution, broadcast and retail, with each segment generating its own contribution to employment and economic gross value add.

The screen sector also transcends economic benefits, as the content that the sector produces can help influence and shape Australia's cultural fabric and social identity. Images, ideas and experiences told by the sector can help inform Australians about what it means to be Australian, their place in the world and provides people with a set of shared stories that they can relate to.

1.1 Definition of the sector

The Australian screen sector is a large sector that spans the entire industry supply chain from production to distribution and broadcast. Specific definitions have been developed for the purposes of the analysis undertaken in this report. Firstly, the report defines the sector in terms of Broad and Core Australian content. Secondly, it defines the economic activity categories across all segments of the Australian screen industry supply chain.

1.1.1 Broad and Core content

Given that there is a vast range of types of screen content, both produced domestically and internationally, this report defines two types of Australian screen content – Broad and Core Australian content.

Broad Australian content

This is film and television screen content that is made under the creative control of Australians, including (but not limited to) feature film, documentaries, TV dramas, as well as a wide range of content such as news and current affairs, light entertainment (e.g. *The Project*, *Millionaire Hot Seat*), reality shows (e.g. *MasterChef Australia*, *Australia's Next Top Model*, *House Rules*), lifestyle/food/travel shows and televised sports programs.

Core Australian content

This is screen content that is made under the creative control of Australians, which falls within the scope of Screen Australia's focus. Screen Australia's focus is solely on Australian film and television that has a scripted, narrative focus as well as film and TV documentaries. As such, Core Australian content sits within Broad content.

It includes Australia's feature films (e.g. *Mad Max: Fury Road*, *The Dressmaker*) and documentary films (e.g. *That Sugar Film*, *Frackman*). It also includes TV documentaries (e.g. *First Contact*, *Go Back To Where You Came From*) and TV drama, which encompasses a diverse range of content, such as mini-series (e.g. *The Secret River*, *Catching Milat*), drama shows (e.g. *Wentworth*, *Underbelly*), comedy shows (e.g. *Upper Middle Bogan*, *The Family Law*) and children's TV shows (e.g. *Nowhere Boys*, *Totally Wild*).

Digital games

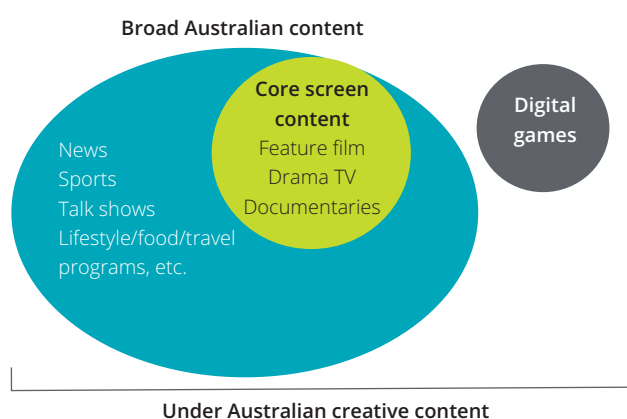
In addition to film and TV content, the screen sector also includes digital games produced in Australia as well. These include mobile and tablet games (e.g. *Real Racing 3*, *Fruit Ninja*, *Crossy Road*) and PC and console games (e.g. *Don Bradman Cricket*, *Rugby League Live 3*).

Overall scope

All in all, the scope of this project is diverse and substantial, covering not only the areas of production that fall within the interest of Screen Australia (and other screen agencies), but also the broader category of all film and television content that is produced under Australian creative control.

Figure 1.1 captures the distinction of Broad and Core screen content by format. Both Broad and Core screen content can go through a variety of delivery channels, including TV, video and digital-only platforms.

Figure 1.1: Broad and Core screen content



Source: Deloitte Access Economics (2016)

1.1.2 Supply chain

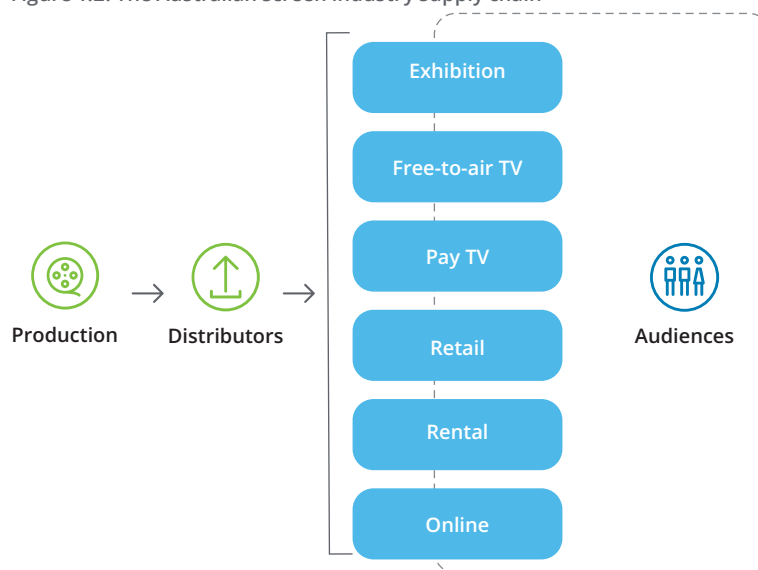
The screen sector can be thought of as eight main sectors: production, distributors, exhibition (e.g. cinema), free-to-air TV, pay TV, retail, rental and the online sector.

- **Production:** This encompasses content creation in film and television products in Australia. It includes pre-production activities, principal photography, as well as a wide range of **post, digital and visual (PDV)** activities such as editing and applying computer generated imagery
- **Distribution:** The distribution subsector is the intermediary which provides an avenue between the producers of screen content and television, retail, rental and cinemas
- **Exhibition:** The exhibition subsector provides cinema venues for the general public to view screen content (primarily feature films)
- **Free-to-air TV:** The free-to-air TV subsector is comprised of public (SBS and ABC) and commercial (Seven, Nine and Ten) providers of broadcast television content. In the case of commercial networks, earnings primarily come from advertising revenue
- **Subscription TV:** the subscription television sector provides television content to audiences via a subscription-based service. This content is often more specialised and caters to smaller audience groups
- **Retail:** The retail subsector captures commercial retail activity involved in the sale of DVD and Blu-Ray screen content
- **Rental:** The rental subsector captures commercial rental services which allow consumers to hire DVD and Blu-Ray screen content

- **Online:** These are mainly internet-based video on demand (VOD) services for screen content and include subscription video on demand (SVOD) services (such as Netflix, Presto and Stan) and free online catch-up services (such as ABC iview and TENPlay). Online does not include video-sharing websites such as YouTube, which provide a range of professional web-based and user-generated screen content.

Screen content is created by the production subsector, enters the distribution subsector and is purchased by audiences in the exhibition, free-to-air TV, pay TV, retail, rental and online subsectors (Figure 1.2).

Figure 1.2: The Australian screen industry supply chain



Source: Deloitte Access Economics (2016)

This supply chain also includes other production activity undertaken by Australian companies, such as production services for international "footloose productions" (e.g. *Pirates of the Caribbean: Dead Men Tell No Tales* filmed in Queensland) and post, digital and visual effects (PDV) services provided to foreign companies (e.g. PDV work on *Ted 2*, *The Avengers: Age of Ultron* and *The LEGO Batman Movie*).

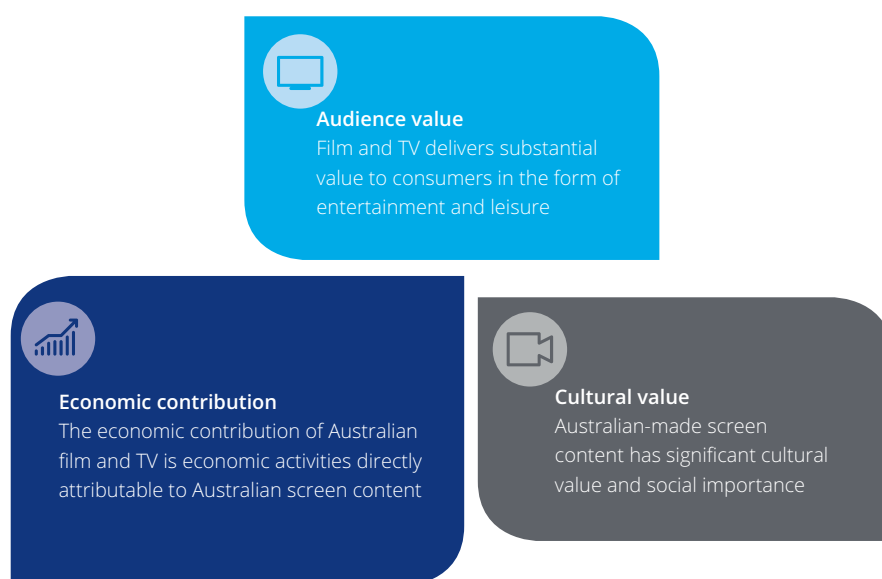
1.2 Framework for analysis

Deloitte Access Economics has developed a comprehensive framework to ensure that the research captures the entirety of the contribution of Australian screen sector. A valuation methodology, consisting of four broad parts is used. Further, in order to achieve these valuations, this report drew on other techniques such as survey analysis and stakeholder consultations.

1.2.1 Valuation methodology

As shown in Figure 1.3, this report includes estimates of the value of the screen sector in terms of audience value, economic contribution and cultural value.

Figure 1.3: Valuation methodology



Source: Deloitte Access Economics (2016)

Audience value can be measured in two ways:

- Firstly, the value to audiences is equal to the revenue received from consumers plus any additional surplus received by the consumer. These measures include total box office revenue, consumer surplus and the value of consumption choice
- Secondly, the value to audiences can also be measured by the value of time spent watching Australian screen content.

Economic contribution quantifies the value of production by a firm or industry in a historical reference year. This was examined in terms of:

- Broad and Core screen content
- Footloose productions
- Digital games
- Screen exports
- Screen-induced tourism.

16 For example, excessive screen consumption may be associated with prolonged periods of inactivity which is linked to obesity; screen content may depict subjects and imagery that is deemed to have potential social costs; and screen consumption may be an addictive behaviour for some individuals, inducing them to potentially forego other activities they would like to engage in.

Cultural value can be captured through willingness-to-pay measures. For example, even those Australians who do not regularly watch Australian film or TV can place significant “non-use” value on the existence of this content. These include:

- The value of having the option to watch it in the future
- The value of others being able to watch it.

This report does not undertake a benefit-cost analysis, and, therefore, does not consider the costs that can be associated with screen consumption.¹⁶

1.2.2 Survey analysis

To estimate the audience value and cultural value of Australian screen content, Deloitte Access Economics fielded a survey of domestic and international audiences. Approximately 1,000 domestic Australian respondents and over 100 international respondents who had visited Australia, from New Zealand, the United Kingdom, the United States and Canada, were surveyed for this report.

Domestic respondents were asked questions such as their willingness to pay and screen consumption patterns of domestic audiences. This survey was also used to get a sense of the tourism impact of Australian screen content from international respondents, and the data here was used to estimate the economic contribution of screen-induced tourism.

1.2.3 Stakeholder engagement

To fill information gaps, gather practical insights into the sector and inform case studies, a series of interviews was undertaken with a selection of organisations involved in the Australian film, television, and digital media industry. Nine stakeholder interviews were held with individuals who were able to provide an informed view regarding the current economic and cultural contribution of the screen sector. These consultations included stakeholders in the areas of production, film distribution, documentary filmmaking and digital distribution. The stakeholders interviewed are listed in **Appendix A**.

1.3 Structure of report

The report is divided into four main chapters of analysis, with each chapter looking at a specific area of contribution, e.g. the sector's economic contribution to exports and tourism, the audience value of the screen medium, and the cultural value of the medium.

- Chapter 2 presents the economic contribution of the screen sector as classified by Figure 1.1 and Figure 1.2, in terms of its direct and indirect contribution to FTE employment, labour income, gross operating surplus, and value add. This chapter also discusses the structural impacts of digital disruption and the rise of digital screen content on the Australian screen sector
- Chapter 3 covers the contribution the screen sector makes to Australia's export industry, in terms of export income such as overseas royalties and license fees. Further, it examines the contribution the sector makes to Australia's tourism industry, in terms of promoting Australia internationally as a desirable tourism location
- Chapter 4 explores the audience value of Australian screen content for domestic audiences. That is, how much consumers value Australian content over and above what they pay (i.e., the consumer surplus) and their willingness to pay, particularly for content that does not have a market price. This chapter also discusses how digital screen content and digital technologies are altering the value of the content for domestic audiences
- Chapter 5 covers the cultural and non-use value of the screen sector. These values can be estimated through a survey and capture values that people may hold such as the valuing the existence of Australian screen content and valuing the option to experience screen content.

2. Economic contribution analysis

This chapter presents the economic contribution of the screen sector, in terms of its direct and indirect contribution to full-time equivalent (FTE) employment, labour income (total wage), gross operating surplus (profits), and value add to the economy.

The estimates are presented for the:

- Broad screen sector
- Core screen sector
- Footloose production
- Digital games production.

Further, this chapter discusses the challenges and opportunities that the sector faces as a result of digital disruption and the rise of digital screen content.

2.1 Economic contribution modelling

In this study, the total economic contribution of the Australian screen sector represents the sum of the industry's direct and indirect contributions.

The **direct economic contribution** of the screen sector is the value add created by labour and capital inputs employed directly by the sector. In contrast, the **indirect contribution** is a measure of the demand for goods and services produced in other sectors of the economy as a result of intermediate inputs demanded by the screen sector (e.g. financial services, electricity, rental services). The size of this flow-on activity is dictated by the extent of linkages with other supplier sectors of the economy.

Value add, GOS and labour income

Value add can be thought of as the revenue earned by an economic entity (e.g. a company or sector) for the goods and services it sells, excluding the cost of inputs it bought from other sectors. For example, in the production subsector, a company applies its workers (e.g. cast and crew) and capital equipment (e.g. studios and camera equipment) to goods and services supplied from other parts of the economy to create products that are worth more.

The value add of an entity is comprised of the labour income that is earned by the workers it employs and the gross operating surplus (GOS) which represents the profit that is earned by its capital equipment. Value add excludes any subsidies that have been granted to the entity by the government or similar public bodies.

All direct, indirect and total contributions are reported as value add and employment. Further detail on the approach used to measure the economic contribution of the screen sector is discussed in Appendix E.

2.1.1 Data

The key data source was retail, box office, production and recoupment data on Australian film and television content provided to Deloitte Access Economics by Screen Australia. This data covered Core documentary,

feature film and drama television screen content supported by Screen Australia, but also covered broader screen content as well. This data was particularly significant in informing the gross revenue figures and expenditure figures for the screen subsectors.

To supplement this data in the contribution modelling, other sources were used, including the Screen Australia (2015a) Drama Report and data from the Screen Australia website on topics such as domestic box office performance, share of Australian cinema releases and Australian audiovisual royalties earned from overseas sales.

Data was also drawn from the ABS datasets on film, television and digital games industry in Australia for 2011-12 (ABS, 2013), from publicly available sales statistics from the Australian Home Entertainment Distribution Association (AHEDA) and from various industry reports, such as IBISworld reports, and media releases. This data was used to inform the overall cost structures and growth rates in key industry variables, as well as determine the relative sizes of the Broad subsectors and Core subsectors. Finally, insights and data provided during the stakeholder consultation process also served to validate the data incorporated and the modelling estimates.

2.2 Contribution of screen sector

Previous studies have estimated the overall size of the Australian screen sector. For example, the Deloitte Access Economics (2015a) report on the total economic contribution of the film and television industry found total value add to be around \$5.8 billion in 2012-13.¹⁷ Likewise, Deloitte Access Economics (2015b) found total value add to be \$77.2 million for South Australia's screen production subsector alone.

This report, however, goes further and isolates the economic activity into film and TV productions under Australian creative control in terms of the Broad screen sector and the Core screen sector. It also isolates this activity for footloose productions and for digital game production in Australia as well.

Australian TV content encompasses a wide range of production activity – it includes fictional or drama production (such as mini-series, drama shows, comedy shows and children's TV shows), as well as factual documentaries. The remainder is allocated to content such as news, current affairs, light entertainment, reality, and sport. In 2014-15, 47 TV drama programs (517 hours) were produced in Australia, with expenditure of \$299 million. The majority of these titles (and expenditure) were associated with domestic programs.

Likewise, feature film content in Australia covers a range of content – from ones with large international releases to ones that have been domestic box office and/or critical successes to more low-budget films and films with limited local releases. In 2014-15, there were 35 Australian features released (including both domestic productions and co-productions), representing \$121 million of production expenditure.

2.2.1 The Broad screen sector

From 24-hour news to a vast array of sports coverage to countless lifestyle and reality shows, Broad Australian screen content is highly prevalent. For example, in terms of television content, under broadcasting regulations, all commercial free-to-air television licensees are required to broadcast an annual minimum quota of 55% Australian content between 6am and midnight on their primary channel (ACMA, 2016a). They are also required to provide during the same time at least 1,460 hours of Australian content on their non-primary channels (ACMA, 2016a).

¹⁷ It is acknowledged that there is a difference between the \$5.8 billion figure from the 2012-13 estimates of Australian film and television and the figures estimated in this report. The difference lies in two main areas: Firstly, the \$5.8 billion figure covers a larger remit of activity, including footloose as well as other content that is produced like advertising, which are not covered in our report. Secondly, the data that was used in that modelling was older, whereas the ones in this report are considerably more up-to-date and robust.

Australian content features quite heavily for the public free-to-air channels. For example, according to the consultation with the ABC, 10-15% of children's content on ABC Kids is Australian-made, as is 45% of prime-time content on ABC1 and ABC2. Further, in terms of content commissioned by the ABC, Australian content made up approximately 50% of their commissioned hours and 70% of their budget.

Further, pay TV is also regulated by a compulsory standard which requires a minimum expenditure of 10% on Australian dramas on their drama channels, although this can also be covered by their expenditure in other content such as feature films (ACMA, 2016b). This also ensures some level of Australian content is present on subscription-based television channels, notwithstanding other types of locally produced content on pay TV, from Australian lifestyle shows to news programs.

Economic contribution

The Broad screen sector in Australia had a total estimated economic contribution of approximately **\$2.6 billion in value add** to Australia's GDP and **20,158 FTE jobs** to national employment in 2014-15. This total value add is the equivalent of around 5% of Australia's information media and telecommunications industry or around 18% of its arts and recreation services industry.¹⁸

Value add is the sum of GOS and labour income, minus any subsidies. The total figures presented below in Table 2.1 are the summation of the total direct figures and the indirect figures.

Table 2.1: Economic contribution of all Broad screen sectors, 2014-15

	GOS (\$m)	Labour income (\$m)	Value add (\$m)	Employment (FTE)
Direct	649.1	1,259.6	1,825.5	13,151.2
<i>Production*</i>	84.8	492.0	493.6	6,558.0
<i>Distribution</i>	92.9	36.9	129.8	432.0
<i>Free-to-air TV</i>	277.9	519.4	797.3	3,646.1
<i>Pay TV</i>	165.3	178.9	344.2	1,649.6
<i>Exhibition</i>	8.4	9.5	17.9	275.9
<i>Retail</i>	8.0	14.5	22.5	450.7
<i>Rental</i>	4.2	4.9	9.1	109.0
<i>Online</i>	7.7	3.5	11.2	30.0
Indirect**	296.4	444.8	741.2	7,007.1
Total	945.6	1,704.4	2,566.8	20,158.4

Source: Deloitte Access Economics (2016). Due to rounding, figures may not add up to totals.

*Due to subsidies, value add is less than GOS and labour income

**Indirect figures refer to production only.

In terms of **employment**, the production subsector made the largest contribution, directly employing 6,558 FTEs. This was followed by free-to-air TV with around 3,646 FTE jobs and pay TV with around 1,650 FTE jobs. **In terms of direct value add**, the largest contribution came from the free-to-air TV subsector with around \$797 million in value add, with the production subsector next at around \$494 million in value add. The pay TV subsector also made a significant contribution with \$344 million in direct value add.

18 It is acknowledged that there is a difference between the \$5.8 billion figure from the 2012-13 estimates of Australian film and television and the figures estimated in this report. The difference lies in two main areas: Firstly, the \$5.8 billion figure covers a larger remit of activity, including footloose as well as other content that is produced like advertising, which are not covered in our report. Secondly, the data that was used in that modelling was older, whereas the ones in this report are considerably more up-to-date and robust.

The smallest contribution, in terms of both value add and employment, for Broad screen content was made by the online and rental subsectors. The small size of the rental subsector very much reflects the declining popularity of video rental. Analysis of AHEDA statistics on rental wholesale of all video formats, over the five year period leading to 2012-13, shows that total sales fell overall by 65%. In contrast, online platforms are small due to starting off from a small base, but are anticipated to grow, with rapid domestic uptake following the introduction of the SVOD services Netflix, Presto and Stan in 2015.¹⁹

In order to avoid any double counting, the indirect contribution figures provided here are for the production subsector only (reflecting that numerous shared resources across the screen content supply chain).²⁰

The role of advertising

Although not examined in this chapter in terms of its economic contribution, the advertising industry also plays an important role with regards to Australian screen sector activities. Firstly, it funds a significant amount of Broad and Core screen content, such as through advertising revenue earned by free-to-air TV broadcasts. According to ZenithOptimedia forecasts, Australia's television advertising revenue is expected to reach just under \$4 billion in 2016 (Mason, 2016).

It is also an important adjacency to the production subsector, as cast and crew employed in the Broad and Core screen sector also earn income from advertising work and many technical and creative screen professionals that eventually end up in Australian film and TV productions were initially trained through working on advertisements.

On free-to-air television, Australian produced content dominates in terms of ratings. According to consolidated OzTam ratings data across five metropolitan markets (Sydney, Melbourne, Brisbane, Adelaide and Perth), the highest rated non-sports shows were the final episodes of *MasterChef*, *My Kitchen Rules* and *The Block*, with 2 million views and over (Knox, 2016a). Given these high ratings, it is apparent that Australian content is associated with a large amount of advertising revenue which accrues to the commercial free-to-air television subsector.

2.2.2 The Core screen sector

According to the Drama Report (Screen Australia, 2015a), the total domestic spend for Australian feature film and drama TV was \$420 million in 2014-15, amounting to a total of 82 titles. Breaking this down, \$121 million was spent on 35 feature film titles and \$299 million was spent on 47 drama TV titles.

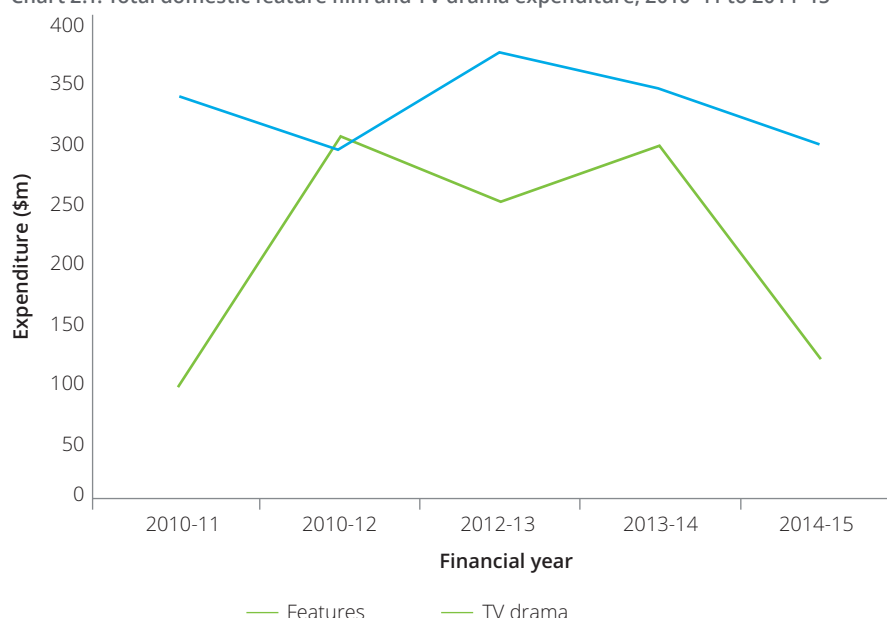
The Australian screen sector produces a substantial amount of broader screen content. As such, the economic contribution figures in this section tend to be smaller as these numbers focus on the supply chain of Australian content solely in the realm of feature film, drama TV and documentaries.

Over the last few years, Australian TV drama expenditure has been higher than Australian feature film expenditure and has been relatively more stable, with spending on feature films fluctuating more significantly in comparison (Chart 2.1). The five year average domestic spend (2010-11 to 2014-15) for feature film has been \$213 million while the five year average domestic spend for drama TV has been \$329 million – which makes 2014-15 a relatively low year in terms of feature film and drama TV domestic spending.

¹⁹ Domestic uptake of SVOD has grown rapidly despite a number of these services only being introduced to Australia in 2015. By May of 2016, nearly 6.2 million Australians over the age of 14 had access to SVOD services in their homes, representing a total of over 2.3 million home subscriptions (Roy Morgan Research, 2016).

²⁰ This most likely provides a conservative estimate of the indirect contribution of the screen sector, given that other subsectors may also demand domestic intermediate inputs which are not used by other subsectors.

Chart 2.1: Total domestic feature film and TV drama expenditure, 2010-11 to 2014-15



Source: Deloitte Access Economics (2016) based on Screen Australia (2015a) Drama Report's feature film and TV drama expenditure data.

Further, in the documentary space, the total production budget for 2014-15 was \$147 million and 184 titles were produced, of which 97 were single titles and 87 were for documentary series. In terms of production budget, this is not far off from the five year average production budget (2010-11 to 2014-15) of \$144 million.

Economic contribution

In terms of all eight subsectors involved with Core Australian content in 2014-15, the total economic contribution was **\$847 million in value add** to Australia's GDP and **7,650 in FTE jobs** to national employment (Table 2.2). This total value add is the equivalent of around 7% of Australia's arts and recreation services industry.

Table 2.2: Economic contribution of all Core screen sectors, 2014-15

	GOS (\$m)	Labour income (\$m)	Value add (\$m)	Employment (FTE)
Direct	206.1	420.7	543.5	4,782.6
Production*	34.7	201.3	152.8	2,683.6
Distribution	38.0	15.1	53.1	176.8
Free-to-air TV	74.0	138.2	212.2	970.3
Pay TV	44.0	47.6	91.6	439.0
Exhibition	8.4	9.5	17.9	275.9
Retail	3.3	5.9	9.2	184.4
Rental	1.7	2.0	3.7	44.6
Online	2.0	0.9	3.0	8.0
Indirect**	121.3	182.0	303.3	2,867.4
Total	327.4	602.7	846.9	7,650.0

Source: Deloitte Access Economics (2016). Due to rounding, figures may not add up to totals.

*Due to subsidies, value add is less than GOS and labour income

**Indirect figures refer to production only.

As with Broad screen, Core screen content production remains the largest direct employer and free-to-air TV

generates the largest direct value add, while the rental and online subsectors provides the smallest economic contribution.

In terms of **employment**, the production subsector – through its creation of Australian feature film, drama TV and documentaries – made the largest contribution, directly employing around 2,684 FTEs. This was followed by free-to-air TV with around 970 FTE jobs and pay TV with 439 FTE jobs.

In terms of **direct value add**, the largest contribution came from the free-to-air TV subsector with around \$212 million in value add, with the production subsector next at \$153 million in value add. Not counting for government subsidies in Australian Core screen content production, the sum of capital and labour earnings in the production subsector (i.e. the sum of GOS and labour income) exceeds that of all other subsectors. The pay TV subsector also made a significant contribution with \$92 million in direct value add.

The direct economic contribution of production is smaller for Core content than for Broad – \$153 million and 2,684 FTE jobs for Core compared to \$494 million and 6,558 FTE jobs for Broad. The direct economic contribution of subsectors such as free-to-air TV and pay TV are also significantly smaller as well.

Because the exhibition subsector deals only with Core screen content, namely feature film and documentary films, its economic contribution (around \$18 million in direct value add and 276 in direct FTE jobs) for Core screen content is the same as for Broad screen content.

One notable change in relative sizes among subsectors is that the Core retail subsector, in terms of both direct value add and employment, is smaller than the exhibition subsector, in contrast to being larger than the exhibition subsector for Broad retail.

2.2.3 Footloose production

Footloose production refers to television and film production activity which can be placed and located in many different locations. This applies particularly to large budget, international studio financed productions that choose to film in Australia instead of elsewhere.

In 2014-15, the total expenditure (both production and PDV-only activity) spent by footloose productions in Australia was \$418 million according to the Screen Australian Drama Report (2015a). This comprised \$397 million in foreign features (including *Pirates of the Caribbean: Dead Men Tell No Tales*, the largest international feature ever to shoot in Australia) and \$21 million in foreign TV drama activity. It should be noted that 2014-15 was unusual in terms of how high foreign expenditure was, with the five year average being \$196 million from 2010-11 to 2014-15.

Economic contribution

Much of the growth in footloose production in 2014-15 was driven by the presence of the *Pirates of the Caribbean* production in Queensland. These large international opportunities vary over time in terms of frequency and size and their presence in Australia can depend on a number of external factors, including exchange rates, tax incentives and the filming decisions of international studio companies. As such, these economic contribution figures can best be seen as supportive of the sustainability and growth of the domestic Broad and Core screen sector.

The total economic contribution of footloose activity in Australia in 2014-15 amounted to **\$382 million in total value add and 4,093 in FTE jobs**.

Table 2.3: Economic contribution of the Australian production subsector from footloose activity, 2014–15

	GOS (\$m)	Labour income (\$m)	Value add (\$m)	Employment (FTE)
Direct	9.5	148.4	158.0	1,978.8
Indirect	89.4	134.2	223.7	2,114.3
Total	99.0	282.7	381.6	4,093.0

Source: Deloitte Access Economics (2016). Due to rounding, figures may not add up to totals.

The indirect economic contribution is a significant component of the total economic contribution, generating a higher value add and level of employment through flow-on effects in the economy than the direct value add and employment generated by footloose productions Australia.

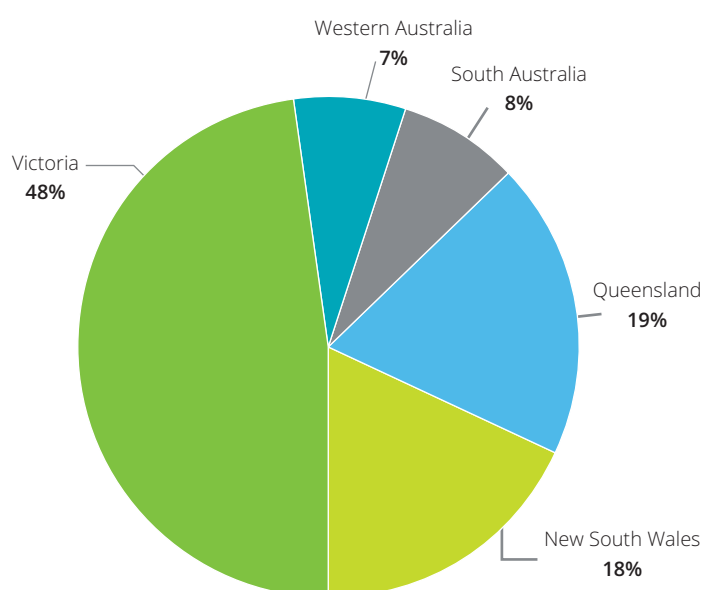
One thing to note is that labour income makes up the majority of value add. This is due to the fact that footloose productions primarily hire Australian cast and crew as labour input, with any profits accrued (i.e. the gross operating surplus) from these activities going to the overseas production studios.

2.2.4 Digital games

At present, Australian game developers are predominantly small- to medium-sized independent studios and studios of international publishers that produce game content for mobile phones, tablets, PCs and, to a lesser extent, consoles. These games are primarily exported to the international market. According to the GDAA (2015), there are currently 225 game development businesses in Australia.

The majority (48%) of the 225 current Australian game development businesses are located in Victoria with the next two largest centres being Queensland (19%) and New South Wales (18%) (GDAA, 2015). This is illustrated below in Chart 2.2.

Chart 2.2: Geographic spread of Australian game development businesses



Source: Deloitte Access Economics (2016) based on GDAA (2015)

Digital games consumption in Australia

The consumption of digital games is growing strongly in Australia. In 2015, revenues from the sale of gaming-related goods (which includes games, subscriptions, hardware and accessories) reached an estimated \$2.83 billion, an increase of 15% over retail revenue of 2014 (IGEA, 2016). In addition, digital sales in 2015 (\$1.59 billion, up 27% from 2014) exceeded traditional retail sales (\$1.24 billion, up 2% from 2014).

According to the Digital Australia Report 2016 (IGEA, 2015), video game consumption is highly prevalent in Australian households. Around 98% of homes with children under eight have a device for playing computer and video games. Of all homes, nine in 10 have game devices in use. The percentage of households with games has grown from around 75% in 2005 to over 90% in 2015, demonstrating that this is a mature media market.

Economic contribution

In 2014-15, the total economic contribution of digital game production in Australia was around **\$123 million in value add** and **1,053 in FTE jobs**. This figure relates to the production of digital games alone and does not include publishers/distributors and retail, rental or online subsectors that are further along the value chain for the Australian games sector.

Table 2.4: Economic contribution of the digital game production subsector, 2014-15

	GOS (\$m)	Labour income (\$m)	Value add (\$m)	Employment (FTE)
Direct	46.8	50.7	96.6	844.2
Indirect	10.4	15.8	26.2	208.2
Total	57.2	66.5	122.7	1,052.4

Source: Deloitte Access Economics (2016). Due to rounding, figures may not add up to totals.

The digital game production subsector also generates a much larger direct value add and employment figure than through indirect flow-on effects in the Australian economy. Much of this relates to digital game production being a technical and creative industry requiring high-skilled workers generating complex software products. For example, in 2015 there were 37 tertiary providers in Australia offering 172 games or games-related courses (GDAA, 2015). In many instances, this process – while costly and intensive in terms of direct capital, labour inputs and imported intermediate inputs – does not source the majority of its intermediate inputs from domestic suppliers in Australia.

2.3 Benefits and challenges facing the sector from digital disruption

It is important to recognise that the rise of digital screen content and its supporting technologies such as video on demand has changed how value accrues to Australian suppliers and distributors. These changes are bringing significant structural changes to the whole screen sector.

In this report, digital screen content is defined as consisting of **traditional content** made for traditional distribution that is digitally distributed, as well as **online originals** which are professional web-based productions made specifically for online viewing.²¹

²¹ Another form of digital screen content is **user-generated content** that is produced and uploaded to video-sharing sites and social media by everyday users, usually without any intention to earn revenue. This encompasses an immense variety of screen content and is a rapidly growing form of content creation. However, for the purposes of this report on the Australian screen sector, this chapter will focus only on traditional content and online originals as they are more closely associated with traditional screen sector activity.

One on hand, digital screen content brings benefits such as heightened potential for audience reach and potential cost-savings associated with delivering screen content. On the other hand, it has altered the traditional revenue stream of Australian film and TV subsectors and made content monetisation more complex.

2.3.1 Benefits for producers and distributors

Dissemination of content

A major appeal of digital distribution is that the audience for content is now potentially global. Dissemination is helped by the fact that video on demand services makes it easier for niche screen content to be distributed. Without restrictions such as broadcast or cinema schedules, a wide range of content can be distributed. Likewise, it bypasses distribution bottlenecks and physical costs (such as the storage and transport of DVD/Blu-Ray).

Opportunities for new and niche content creators

Digital distribution can benefit new entrants and niche content creators in the production subsector, allowing them sell their content earlier than otherwise. These companies can grow an audience base in a shorter span of time, without needing to rely heavily on intermediaries such as major distributors, cinema operators and television broadcasters to reach potential audiences.

There are also opportunities for audience-driven business models, where online content with a strong following can become self-sustaining productions. An example of this was the comedy series *The Katering Show* which was initially released on YouTube in 2015, before being picked up and partly funded by the ABC for a second series on iView in 2016.

Digital disruption brings with it opportunities to engage new markets

While Australian content may face challenges domestically, advances in digital technology bring with it opportunities to engage new markets overseas. Data provided by Screen Australia for the 2014-15 sample period shows that 39 Australian titles are available for rent, own or subscription via 323 VOD sources both domestically and abroad. Over 50% of these titles have reached international audiences, with nearly 20 countries other than Australia able to access Australian content on VOD. This provides insight into the revenue raising potential of Australian content via digital platforms to international markets.

2.3.2 Challenges for producers and distributors

Loss of traditional ancillary markets

Content has been typically released through one delivery channel for a set period of time ("release window") before it can be released via other delivery channels. This can benefit Australian content – for example, even if a local film struggled to cover costs at the box office, other outlets such as video, subscription TV and free-to-air TV have served as ancillary markets, giving the film alternative revenue streams.

Digital disruption has greatly affected the viability of monetisation through ancillary markets. The retail subsector is experiencing falling sales due to competition from online and Australian content is experiencing lower licensing fees in the TV subsectors. This is in part due to competition with SVOD and, in the case of free-to-air TV, changes to prime time show composition in order to attract advertising revenue (Screen Australia, 2015b). The alternative to the erosion of ancillary markets is to focus solely on digital distribution. But Australian content that is predominantly released online have yet to reach the consistent levels of monetisation provided by traditional release chains.

Release windows becoming more complicated

Greater monetisation is possible through creative windowing arrangements, such as having the content shown for a window of time on a SVOD or catch-up service around the same time as it is shown by free-to-air broadcasters, in cinemas or on pay TV. However, the ability to monetise content and sell the content rights

in hybrid arrangements is constrained by the fact that negotiating creative windowing can be costly. The framework for purchasing the right to broadcast content in the current environment of multi-channel and online streaming has led to ongoing complexities for the screen sector.

Uncertainty around dominant SVOD services

Australian-based producers are faced with the challenge of significant content saturation, having to compete with a large quantity of easily accessible international content. It remains to be seen whether dominant SVOD services will support the viability of the local production subsector.²²

Need for better data analytics and reporting

One challenge to creating a successful monetisation strategy is a need for better data and measurements analogous to box office revenue and television ratings that can provide insight into the performance of Australian content in a digital environment (Screen Australia, 2015b). There are also untapped opportunities for data analytics to drive value for producers and distributors. The consumption of digital screen content generates large amounts of data on consumer behaviour which can provide valuable insight on how to improve the audience reach and audience engagement with their content, as well as address advertising revenue challenges.

Online originals

Online originals – that is, screen content that is professional produced specifically for online platforms – is quickly becoming a significant part of the Australian screen sector. For example, ABC iView has begun to commission short-form online original content to engage with online-orientated audiences and help support Australia's emerging digital production subsector (Knox 2015; 2016b). According to consultations with the ABC, these emerging talents have experience producing content that resonates with audiences more attuned to online video formats. By engaging with them, the ABC is seeking to learn from their productions techniques.

Recent examples of well-received online original shows include *The Katering Show*, *Starting From... Now!*, *Fragments of Friday* and *The Wizards of Aus*. Overall, online originals are an evolving and rapidly growing part of the screen sector.

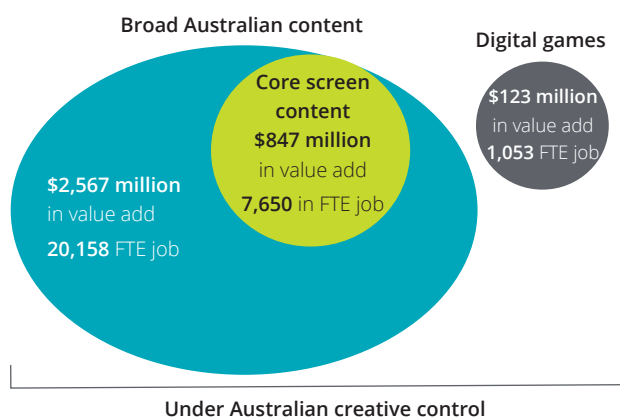
2.4 Summary

In summary, in Australia in the reference year 2014-15:

- The Broad screen sector made a total economic contribution of approximately **\$2.6 billion in value add and 20,158 FTE jobs**
- The Core screen sector made a total economic contribution of **\$847 million in value add and 7,650 FTE jobs**
- Footloose activity made a total economic contribution of **\$382 million in total value add and 4,093 FTE jobs**
- The digital game production subsector made a total economic contribution of **\$123 million in value add and 1,053 FTE jobs**.

²² That being said, Australia's main SVOD services have begun to invest in original Australian content. For example, Screen Queensland recently announced a partnership with Stan to develop and finance a feature film to be distributed exclusively on the service (Queensland Government, 2016). Stan has also commissioned a season of the comedy series *No Activity* and invested in the television show *Wolf Creek* (Media Day, 2015).

Figure 2.1: Total economic contribution of Broad and Core screen content



Source: Deloitte Access Economics (2016)

Table 2.5 below provides the list of full estimates for the 2014-15 direct economic contribution of the Broad screen sector, Core screen sector, footloose production subsector and the digital games production subsector. It includes standard estimates such as value add and employment, as well as estimates of revenue, intermediate inputs, subsidies and taxes.²³

Table 2.5: Full direct economic contribution estimates, 2014-15

	Broad (All)	Core (All)	Footloose (Production)	Digital games (Production)
Gross revenue (\$m) ²⁴	7,248.9	2,294.6	418.0	127.2
Direct value add (\$m) ²⁵	1,825.5	543.5	158.0	96.6
GOS (\$m)	649.1	420.7	9.5	46.8
<i>Taxes on production (\$m)</i>	223.8	61.6	1.6	1.5
Labour income (\$m)	1,259.6	206.1	148.4	50.7
<i>Excluding subsidies (\$m)</i>	-83.2	-83.2	-	-0.9
Intermediate inputs (\$m)	5,043.8	1,586.3	257.9	28.1
Subsidies (\$m)	83.2	83.2	-	0.9
Taxes on products (\$m)	296.3	81.6	2.1	1.7
Direct employment (FTE)	13,151.2	4,782.6	1,978.8	844.2

Source: Deloitte Access Economics (2016).

²³ Gross revenue estimates are collected from a variety of sources, such as data provided by Screen Australia and from industry reports. Intermediate inputs were estimated from the percentage of total industry expenses for the relevant subsectors as reported by the ABS and other sources. Subsidies came from the Screen Australia (2015a) Drama Report. Taxes on production and products were estimated from the tax split reported by the ABS Input-Output tables for the relevant subsectors. A summary of government subsidies, as well as other forms of government support not included in Table 2.5, is provided in Appendix B.

²⁴ Gross revenue is equal to direct value add, intermediate inputs, subsidies and taxes on products.

²⁵ Direct value add is equal to GOS (EBITDA) and labour income, minus subsidies. Taxes on production are included in direct value add under GOS.

3. Exports and tourism

This chapter examines the economic contribution of Australian screen content in terms of screen content exports and screen-induced tourism. This chapter provides:

- An overview of export earnings for film and television
- An estimate of 2014-15 export earnings for Core Australian content
- A discussion of how screen content can induce tourism
- An estimate of the overall value of screen-induced tourism in Australia.

3.1 Export earnings for film and television

Exports of Australian film and television to international markets occur primarily through distributors. For example, ABC has ABC Commercial which delivers screen content internationally. Examples of ABC exports include *Miss Fisher's Murder Mysteries* and *The Code* which has been shown in a number of countries, such as in the United Kingdom, Canada and France, among others.

Further, according to ASTRA (2015), in 2014-15, pay TV providers exported a total of 13,199 hours of Australian content overseas for foreign audiences. Likewise, a number of recent Australian films have also been exported overseas in the last year, including *The Dressmaker*, *The Water Diviner* and – perhaps, most significantly – *Mad Max: Fury Road*, which was highly successful at the international box office.

3.1.1 Audiovisual royalties in previous years

Screen Australia releases data on royalties earned and paid by Australia for international screen content (Screen Australia, 2016a). This data is drawn from unpublished data from the Australian Bureau of Statistics (ABS), Balance of Payments and International Investment Position (cat. no. 5302.0), and reports the value of royalties arising from export of cinema, television, video (Blu-ray, DVD and VHS) and multimedia releases.²⁶

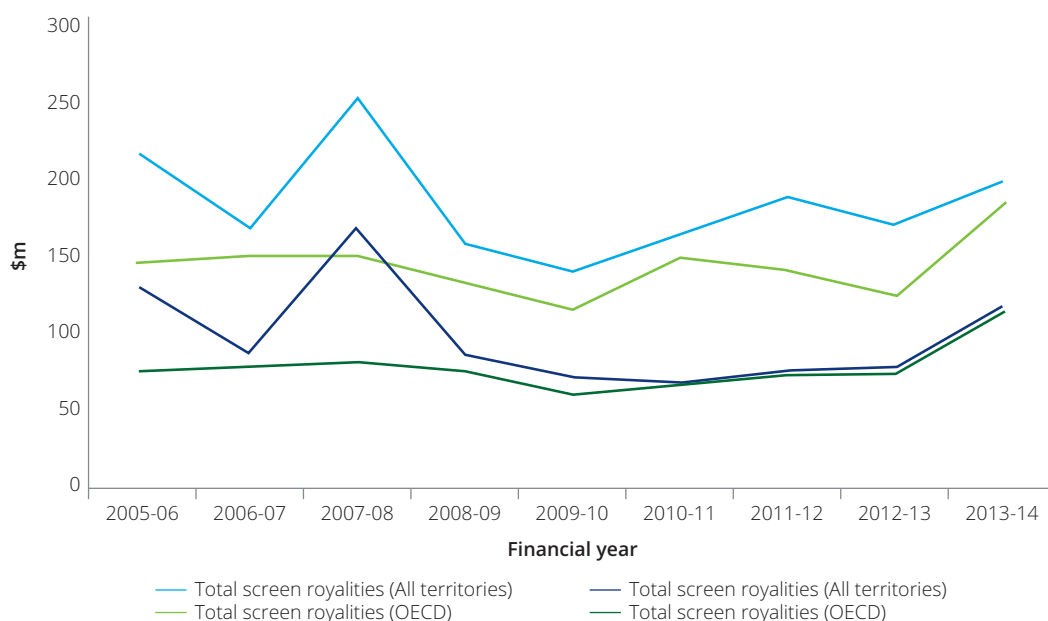
In 2013-14, total foreign royalties earned in cinema, television, video and multimedia releases amounted to **\$199 million**. In contrast, total foreign royalties paid were \$1.36 billion. When imports are accounted for, Australia has had a persistent annual deficit in audiovisual trade since 1991-92. One exception to this deficit was in 2000-01 when television royalties earned by the Sydney Organising Committee for the Olympic Games (SOCOG) created Australia's first ever screen royalty trade surplus of \$552 million.

As shown below in **Chart 3.1**, the movement of total royalty earnings appears to be driven primarily by television exports (particularly between 2005-06 and 2009-10, and from 2012-13), with rises and falls in television exports contributing heavily to rises and falls in total screen exports. These television royalties also include earnings from feature films sold for overseas television screenings.

Furthermore, as shown in the chart, the majority of total royalty earnings and television royalties are to the OECD nations (e.g. UK, US, Canada, New Zealand). This is to be expected given that OECD countries have higher average levels of disposable household income and some are Anglophone countries with culture, heritage and language comparable to that produced in Australian screen content.

²⁶ It is important to note that the ABS also reports figures for unidentified audiovisual imports and exports – this is included in the total royalty figures, but is not captured in their separate reporting of television, cinema, and video. Further, for certain years and for certain export destinations where the data is unpublished due to confidentiality reasons.

Chart 3.1: Total and television royalty earnings, OECD and all territories, 2005–2014



Source: Deloitte Access Economics (2016) based on Screen Australia (2016a) data from the Australian Bureau of Statistics (ABS), Balance of Payments and International Investment Position (cat. no. 5302.0).

While year-to-year royalty earnings from abroad are volatile, from 2005-06 to 2013-14, total royalties earned from all territories have grown by 2% on average per year and total royalties earned from the OECD nations have grown by 4% on average per year. Further, analysis of publicly available data on international royalties reveals that from 2005-06 to 2013-14, average annual television royalty earnings were around \$99.2 million. In contrast, the average for cinema was \$5 million, and the average for video was \$4.1 million.²⁷

3.1.2 Total film and television export earnings

International royalty earnings alone, however, do not capture the full scope of film and television export earnings for the screen sector. Along with royalties, film and television also generates other export products in the form of international pre-sale of television shows.

Below are the types of export earnings which can accrue to Australian film and television content:

- **Foreign box office earnings** – e.g. the international box office earnings for *The Dressmaker*, which was released in countries such as Argentina and the UK, or *The Water Diviner*, which was released in countries such as Turkey and the US
- **License fees to foreign television broadcasters or video sell-through, video-on-demand, etc.** – e.g. licensing earnings from *Neighbours* being broadcast on Channel 5 in the UK or *Wentworth* being added to Netflix in the United States
- **DVD/Blu-ray/other format retail sales overseas** – e.g. international DVD sales of the television series *The Slap* or international Blu-ray sales of *Mad Max: Fury Road*.

²⁷ Noting that 2012-13 and 2013-14 export figures for video are unpublished.

Core screen content export earnings for 2014–15

Drawing on a number of data sources, including gross box office and recoupment data provided by Screen Australia, the total screen export earnings for Core screen content were estimated for the reference year 2014–15. This was approximately 97% the size of Australia's sugar and honey exports, and 10% the size of Australia's medicinal and pharmaceutical product exports in 2014–15.

In 2014–15, total screen export earnings from Australian Core film and television screen content were approximately **\$252 million**. This comprises mainly international box office earnings that accrue to Australia, amounting to 72% of total screen export earnings. The high level of international box office earnings was driven in part by the international success of Australian films such as *Mad Max: Fury Road*, *The Water Diviner* and *Maya the Bee*.

It should be noted that the licence fee data used in these estimates only takes into account Screen Australia funded first releases, meaning that the export earnings figure here should be interpreted as a **lower bound on export earnings**.

Table 3.1 below provides a breakdown by types of export earnings:

Table 3.1: Breakdown of Core screen content export earnings

Type of export earnings	Amount (\$m)	Description
Box office earnings ²⁸	181.9	Amount of foreign box office earnings that accrue to Australia.
License fees and royalties from broadcast and video ²⁹	70.0	Earning from sales and pre-sales of Core screen content rights to foreign broadcasters and earnings from foreign video retail sales.
Total	251.9	

Source: Deloitte Access Economics (2016)

It should be emphasised that these export earnings are not additive with the economic contribution figures from Chapter 2, as they are revenue to the screen sector that has already been counted in the economic contribution estimates.

Further, while not estimated here, it should be noted that digital game production also generates significant exports. Game production companies in Australia are primarily export-driven due to a small domestic market, with developments in technologies greatly changing the ease with which games can reach international audiences. As such, Australian games released on mobile platforms such as *Real Racing 3*, *Fruit Ninja* and *Crossy Road* have reached hundreds of millions of players around the world.

3.2 International tourism impact of film and television

Australian film and TV that is exported and seen by overseas audiences can potentially have another effect – they can positively influence international visitation decisions, attracting greater number of tourists to visit Australia than otherwise. This can be seen as a source of indirect export earnings as well.

²⁸ Box office earnings are calculated from international gross box office figures, which are then apportioned back to the Australian screen sector once the portion attributable to foreign exhibition and distribution subsectors are deducted from the total.

²⁹ This calculated from ABS data on royalties from video, combined with recoupment data provided by Screen Australia on international sale and presale figures for projects that they have funded.

3.2.1 The relationship between screen content and tourism

The relationship between screen content and international tourism has been well-documented over the years, with screen-induced tourism manifesting in different ways – namely, location and destination tourism.

Nordicity (2013) observes that screen-induced tourism can include **location tourism** where tourism is most connected with the film's content; drawing visitors to a destination or attraction specifically to visit locations where the film was shot. As such, many locations are associated with well-known films that were shot there – e.g. Mt Macedon with *Picnic at Hanging Rock*, Broken Hill with *The Adventures of Priscilla, Queen of the Desert* or Vermont South, which is the actual setting of Ramsay Street in the soap opera *Neighbours*.

It can also include more general **destination tourism** where tourism transcends specific filming locations and visitation is driven by the broader features/characteristics of the destination itself (e.g. landscapes and attractions). According to Oxford Economics (2010), Australia experienced a boost in tourism numbers, such as a 20% increase in visitors from the United States, in the 1980s. This was partially due to the international popularity of films such as *"Crocodile" Dundee*.

Sometimes screen content can specifically be used for tourism marketing purposes, such as the deliberate campaign that Tourism Australia ran following the release of Baz Luhrmann's *Australia*. Often, however, Australian film and television can influence tourism in more diffuse and intangible ways. For example, according to Oxford Economics (2010):

“...the role that films play in promoting a country or a regional rather than a specific location is also important. Films not only generate interest in a country but also act to remind people about what the country has to offer – for example by showcasing scenery and the cultural offer.”

Australian film and television can showcase the country as a desirable place to visit for international visitors, regardless of whether or not there was a deliberate tourism campaign behind the screen content or whether they visit the actual locations depicted in the content they viewed. Similarly, Australian screen actors and practitioners can also help promote the Australian brand and bring attention to Australia as a potential tourism location. Australians with a strong international screen profile have also been used in tourism marketing. For example, it is estimated that Chris Hemsworth's involvement in a Tourism Australia campaign had potentially generated more than 2,000 media stories, worth \$55 million in marketing (Ironsides, 2016). Sometimes the economic effects extend beyond merely increased international visitors, with tourism operators unaffiliated with the film or television program offering activities related in some way to the screen content. For example, horseback riding tours and lessons was an Australian industry that grew materially following the success of *The Man from Snowy River* films (Beeton, 2006).

Although not examined here, film and television can also boost domestic tourism. Following the domestic box office success of the family film *Oddball* – a story based on an actual program in Warrnambool where Maremma sheepdogs guard the penguin colony on Middle Island – visits to Flagstaff Hill Maritime Village, where the Maremma sheepdogs are housed when not on the island, increased 48% from the 2014 spring school holidays (Warrnambool City Council, 2016).

3.2.2 Tourism expenditure attributable to Australian film and TV

Using a unique survey on international visitors to Australia, this report was able to estimate the proportion of tourism which can be attributed to the effects of Australian screen content.

The survey estimated a “screen inducement rate” of 2.27%, which was the share of international survey respondents that responded affirmative to the following:

1. That they came on holiday
2. Had seen Australian film or TV content prior to visiting Australia
3. That the content had increased their interest in visiting Australia
4. That they had visited places in Australia they had seen in Australian film/TV.

Applying this screen inducement rate to the total number of international visitors to Australia and their average stay and tourism expenditure, this report finds that the number of international tourism visits associated with Australian films and TV is estimated to be around **144,000 a year**. Drawing on the Tourism Research Australia (TRA) survey on tourism spending, this translates to around **\$704 million in tourism expenditure in Australia each year**. Further, it is estimated that an additional 85,000 international tourists have **stayed an additional 1.7 nights on average** to see locations in Australian films or TV. The value associated with this incremental demand is estimated to be in the order of **\$21 million**.

Combining the two expenditure estimates, this suggests that total tourism expenditure that may be associated with Australian film and television amounts to **\$725 million each year**. This suggests that Australian screen content that is seen by international audiences may be a significant driver of tourism in the country. For comparison, total visitor spending in Australia in 2014-15 was around \$107 billion. This associated tourism expenditure is over twice the size of the estimated direct export earnings of Australian screen content.

Comparisons with other tourism findings

Tourist attractions are regularly assessed on how they contribute to tourism and economic activity. In most countries, a handful of high profile attractions are likely to be very significant in driving tourism demand such as the Great Wall of China and the Pyramids of Giza. But, the image of countries is a big driver of tourism also, such as the urban experience of New York City and food and lifestyle of Paris.

In Australia, some of the most high profile drivers of tourism include the Great Barrier Reef and the Sydney Opera House. What this report shows is that Australia's lifestyle and image, as communicated through television and film, also serve as compelling inducers of tourism activity, when considered against other high profile national attractions.

Consider the Deloitte Access Economic (2013a) report on the Sydney Opera House that found that the Sydney Opera House could be responsible for around \$640 million of tourism expenditure in Sydney in 2012-13. While not directly comparable with the screen-induced tourism expenditure across the entire country (due to the fact that the Sydney Opera House report reports the amount of expenditure attributable to only Sydney tourism expenditure), this provides a point of comparison between tourism attributable to screen content and other major drivers of tourism in Australia..

3.2.3 Other survey findings

Visiting places in Australian films or TV

Over 60% of international tourists recall seeing an Australian film or TV prior to their visit, of those that have seen it, 85% said the content made them more likely to visit Australia. In fact, of the key reasons for visit, 7% were to visit a location in Australian film or TV.

Staying longer in Australia

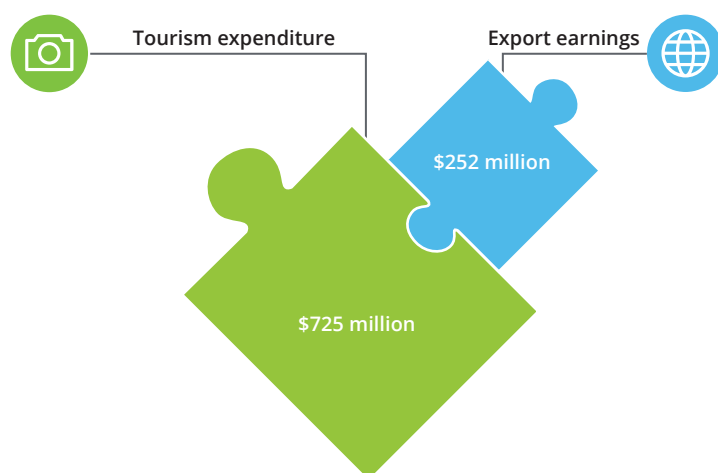
Of those who visited locations in Australian film or TV, a third said they had stayed longer in Australia than they would otherwise.

3.3 Summary

In summary, in terms of exports and tourism:

- Total export earnings from Australian Core film and television screen content were approximately **\$252 million** in 2014–15
- Total tourism expenditure that may be associated with Australian film and TV is estimated to be **\$725 million** a year.

Figure 3.1: Export earnings and tourism expenditure



Source: Deloitte Access Economics (2016)



4. Audience value

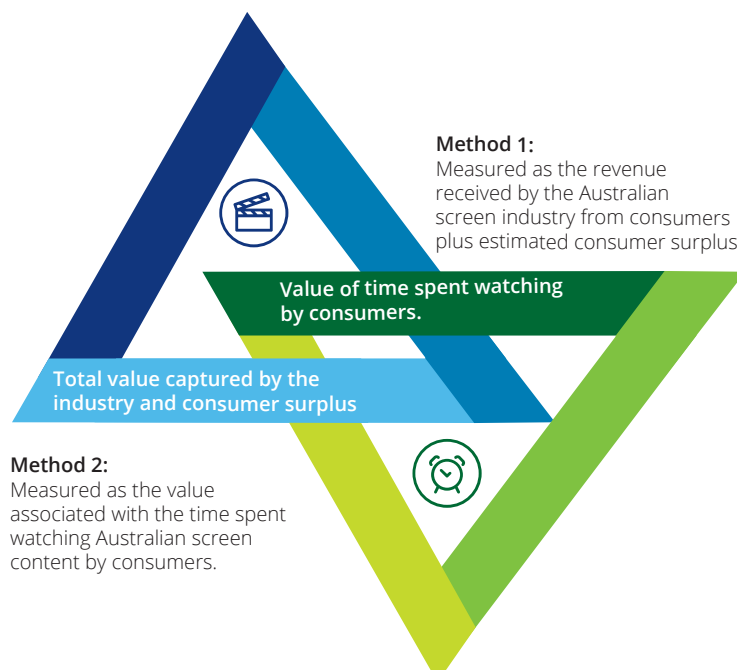
This chapter measures the audience value of Australian screen content, in order to capture the consumer welfare benefit of film and TV to domestic audiences. This chapter provides:

- An overview of the approach used to measure the value of screen content to audiences
- An estimate of the audience value spent watching Australian screen content
- A discussion of audience values generated by digital screen content that is not captured by these estimates.

4.1 Approach

The primary measure of value of any media content lies in its value to audiences. This report estimates the value of screen content to audiences using two methods. Firstly, the value to consumers can be measured as the industry revenue plus any surplus received by the consumer. Secondly, the value to consumers can also be measured by value of time spent watching Australian screen content.

Figure 4.1: Two methods for estimating audience value



Source: Deloitte Access Economics (2016)

The first method is only applied in instances where audiences purchase the screen content – e.g. tickets for a film or price paid to watch DVDs in the case of retail. In instances where audiences do not purchase the screen content outright (such as with free-to-air TV), the time-use value of their consumption will be calculated instead.

This chapter estimates audience value by examining the channels through which they consume Australian film and TV: cinema, TV, online (VOD only) and retail and rental.³⁰ Table 4.1 below summarises which methods are applied to particular delivery channels.

Table 4.1: Type of method used

Content delivery channel	Method 1: Revenue and consumer value	Method 2: Time-use value
Cinema	✓	
TV		
<i>Commercial free-to-air TV</i>		✓
<i>Public free-to-air TV</i>		✓
<i>Pay TV</i>	✓	
Online (VOD only)		
<i>Subscription video on demand</i>	✓	
<i>Non-subscription video on demand</i>		✓
Retail and rental		
<i>DVD and Blu-Ray sales</i>	✓	
<i>DVD and Blu-Ray rental</i>	✓	

Source: Deloitte Access Economics (2016)

4.1.2 Method 1: Revenue and consumer value

One method to value content is how much consumers would be willing to pay for it. This can be thought of as a combination of both how much they spent and how much extra they would spend, the so-called 'consumer surplus'. Further, consumers may value having choice and variety of different content.

Method 1 value is calculated as the summation of the revenue streams from audiences, and adding the average of the consumer surplus and consumer choice value associated with this expenditure as well. The average of consumer surplus and consumer choice is taken due to uncertainty present in the two consumer valuations. For example, the consumer surplus value may also capture the choice value of Australian screen content for audiences, making them comparable but not additive. As such, the average of the two values is used instead for cinema, the pay TV component of TV, the SVOD component of online and retail and rental.

Revenue

For cinema, total revenue is the sum of box office revenue that was earned by Australian films. For pay TV, this is the subscription revenue from Australian TV content. For rental and retail, this is purchases of Australian content on Blu-Ray and DVD.

Revenue data came from a variety of sources, such as IBISworld industry reports, GfK retail data provided by Screen Australia, SVOD data from Telsyte (2015), and gross box office data from the MPDAA.

³⁰ Much of the data comes from reports on overall domestic audience spend and time-use through various delivery channels, not just for Australian content. In order to apportion to only locally produced content, the share of Australian content was drawn from various sources, such as the survey data, gross box office data from MPDAA, data from ASTRA (2015), TV rating statistics from OzTam and desktop analysis of pay TV and SVOD channel offerings and program libraries.

Consumer surplus

Consumer surplus is an economic measure of consumer satisfaction, which is calculated by estimating the difference between what consumers are willing to pay for Australian screen content relative to its market price (i.e. what consumers actually pay).

To measure consumer surplus, various sources were used. One key data source was the survey that was fielded for this report. In the survey, people directly were asked whether they would purchase tickets at particular prices and this data was then used to ascertain the average willingness-to-pay for Australian films. According to the survey data, of those Australians who visited a cinema, on average, they are willing to pay up to \$25 for a screening of an Australian movie. This is a consumer surplus of up to approximately \$11 above the average ticket price of \$14, or a 44% consumer surplus premium.

This is comparable to Deloitte Access Economics (2013b) which drew on a consumer surplus premium associated with telecommunications spending of around 35% from Ovum (2012). It is also important to note that the consumer surplus premium do not necessarily imply that cinema operators or other screen content providers should charge more since higher prices do not necessarily support profit maximisation.

This finding was then applied to cinema expenditure in order to determine the consumer surplus for cinemas. Further, pay TV, SVOD, retail and rental were also assumed to have the same premium as cinema.³¹

Consumer choice

Australian film and TV also generate value by providing a variety of content that would otherwise not be available to domestic audiences. The concept here is that Australian film and TV are different from other screen content in some ways to consumers (e.g. differences in stories, settings, artistic choices, acting) and that these translate into a higher degree of overall consumption value than if they had only access to overseas screen content. An economic model of consumer choice by Brynjolfsson et al (2003) is used to capture the choice value here. See Appendix D for more details on this approach.

This report uses the Brynjolfsson approach to measure the value of choice on Australian film and TV content, noting there are three challenges:

- Quantifying the differences between Australian and non-Australian screen content
- The data with regards to spending on Australian and non-Australian is not entirely clear or somewhat limited
- The absence of consumer prices with which to measure elasticity between Australian and non-Australian content as they are often shown via the same delivery channel (e.g. the same SVOD or pay TV subscription service or the same free-to-air channel).

With regards to quantifying the differences between Australian and non-Australian screen content, this report assessed the uniqueness of Australian screen content from the survey data, which captures the share of respondents that considered Australian film and TV content to be 'fairly', 'very' or 'completely' different from foreign content based on qualities such as storyline, setting, acting music and camera work.

Australian screen content was found to be unique – with almost two thirds (64%) of respondents considering Australian film and TV content to be 'fairly', 'very' or 'completely' different from foreign content based on qualities such as storyline, setting, acting music and camera work. The spending on Australian and non-Australian content is taken from the various revenue streams – e.g. subscription revenue, box office revenue and retail/rental revenue – for the various content delivery channels.

Finally, to measure the elasticity between Australian and non-Australian screen content, this report draws on the same price elasticity estimates used by Brynjolfsson et al for the book market (-1.56 to -1.79) on the basis

³¹ This assumption hinges on the concept that Australia screen content viewed in the cinema is substitutable with screen content viewed on television devices, digital platforms or via DVD/Blu-Ray so as to yield the same average consumer surplus premium. This may not necessarily be the case and could result in an under- or overestimate of the actual consumer surplus.

that consumer preferences between different books are likely to be similar to that between different media options. The midpoint of this elasticity range is used for the calculations here.

4.1.3 Method 2: Time-use method

As demonstrated in Goolsbee et al (2006), the relationship between time spent consuming screen content and the opportunity cost of time can be analysed to estimate the demand curve for screen content. Applying this estimate from the paper, the elasticity of substitution is calculated to be 1.30. See Appendix D for more details on this approach.

In order to apply this elasticity, additional data is needed. Using ABS data on GDP per capita per week, the average income per week in Australia was found to be \$1,326. Drawing on the survey data, it was also found that on average, time spent TV watching made up around 14% of all leisure time. From the survey data, it was also found that on average, over 17 hours per week was spent watching TV among individuals that watched it.³²

Using this elasticity, along with the average income per week in Australia, the leisure time share of TV watching and the average time spent per week watching TV, this report finds the value of time per hour of watching screen content to be approximately \$4.57.

This value of time watching TV can be applied to the time spent by Australians watching screen content to calculate the time-use value, particularly in instances where they do not pay for the content outright.³³

Pay TV example using both methods

Using method 1:

This report calculates a **consumer surplus of approximately \$476 million** for Broad Australian screen content, based off the 44% consumer surplus premium applied to audience expenditure and apportioned by the share of Australian content shown on pay TV channels. It also applies a **consumer choice value of approximately \$533 million**, drawing on audience expenditure apportioned by the Australian content share and a uniqueness factor of 64%. Further, subscription revenue attributable to Broad Australian screen content shown on pay TV is estimated at approximately **\$595 million**.

The average of the consumer surplus and consumer choice value, plus the subscription revenue yields a total audience value of **\$1,109 million** for Australian screen content on pay TV in 2014-15.

Using method 2:

Drawing on the survey data and data on the pay TV share of audience views from OzTAM and RegionalTAM, this report estimates that around **254 million hours** were spent by Australians watching Broad Australian screen content on pay TV in 2014-15.

Applying the time-use value per hour of watching screen content (approximately \$3.5) to total time spent, the audience value is estimated at **\$1,160 million** for Australian screen content on pay TV in 2014-15.

It is interesting to note that when comparing the results of these two methods for pay TV, there is a modest difference of \$51 million between the two audience values. Moreover, when combining the average of the consumer surplus and consumer choice value with subscription revenue (from method 1) and dividing that by the number of hours watched (from method 2), the result is an approximate time value per hour of \$4.37.

³² One limitation of the survey data is that it only captures a single week of screening watching behaviour from respondents. For example, there may be seasonality effects for screen content consumption – i.e. higher or lower levels of TV use during certain times of the year – that are unadjusted for.

³³ In the case of commercial free-to-air TV and SBS, the time-use value was adjusted downwards to remove the time spent viewing non-program advertisements.

4.2 Audience value of Australian film and TV

The total audience value of Australian film and TV content viewing in 2014-15 was approximately **\$17,403 million**, or **\$17.4 billion**, in consumer welfare benefit.

Interpreting these results

The audience value of \$17.4 billion is a significant estimate and much higher than the direct value add of \$2.6 billion for the Broad screen sector. As a point of comparison, this is somewhat larger than the industry gross value added for arts and recreation services in Australia (136%).

The high audience value estimate is highly sensitive to the time-use value of content consumed, which is around \$4.6 per hour. Indeed, this figure is higher than other willingness to pay estimates, such as Venture Consulting's (2015) report on The value of free TV, which said "that Australian households would be prepared to pay an average of \$17 per month to receive the programming they currently receive for free from the commercial free-to-air TV broadcasters" (p9). However, as the report noted, that estimate tends to be an underestimate as they quantify "the consumer's willingness to pay, rather than a notional concept of perceived "value"" (p9). Therefore, if an individual "highly values the services but does not have the financial means to pay, then this value is not reflected in the calculation" (p9). The report also notes that the conservative estimate is also driven by a "strategic effect of customers not wanting to suggest they might be willing to pay" (p9).

At another level, a high value of screen content is not surprising, given how much leisure spending can take place per hour at cinemas or for screen content on DVD/Blu-Ray. Further, TV viewership is one of the largest shares of time outside of sleeping and working for adult Australia which – when combined with the large amount of Australian produced TV content – suggests that Australian screen content generates high levels of value for its consumers. Indeed, whenever new channels of delivery have been introduced to the market (e.g. multi-channels, subscription TV and video on demand), they have experienced strong expansion, suggesting that there exists latent audience demand that commercial screen production has not fully captured. It is unsurprising under these circumstances that audience value is much higher than the economic contribution estimates.

However, there are a range of other factors that may influence the result. Australian content quotas may lift the level of viewing compared with an unregulated environment. It is possible that because of Australian content quotas, the audience value presented here is overstated. It is unclear what the audience value would be in a counterfactual situation without content quotas, given that the screen sector is not a purely competitive market.

Another limitation is that the gross hours of TV consumption also includes time where individuals may be engaging in other activities. For example, to the extent that just 'having the television on' is something that is happening by default, rather than screen content being actively consumed, adds uncertainty to the estimates of audience value.

The vast majority of audience value was generated from Australian content watched on TV (public and commercial free-to-air and pay TV).

- Types of Australian content that falls under commercial free-to-air TV (i.e. Seven Network, Nine Network and Network Ten) includes highly popular shows such as *Catching Milat*, *MasterChef Australia* and *The Bachelorette*.
- Types of Australian content that falls under public free-to-air TV (i.e. ABC and SBS) include shows ranging from predominantly non-fictional shows such as *Q&A* and *Dateline* to scripted, narrative content such as *Jack Irish* and *The Family Law*.
- Types of Australian content that falls under pay TV services (such as Foxtel) include the lifestyle show *River Cottage Australia* and dramas such as *Wentworth*.

This was followed by online (VOD only), with the majority of its audience value being generated by non-subscription video on demand (i.e. online catch-up services). These services can provide a variety of Australian film and television content, much of it which has been previously aired on TV or released in cinemas, although the Australian content share in SVOD remains low. This is a small but growing area of media consumption. Cinema was the next largest in terms of the audience value it generated from Australian content. The smallest was retail and rental, with retail generating a larger audience value than rental. Retail and rental also has low Australian content shares and is facing declining overall demand for DVD/Blu-Ray purchases and rental services.

The Australian domestic box office in 2015

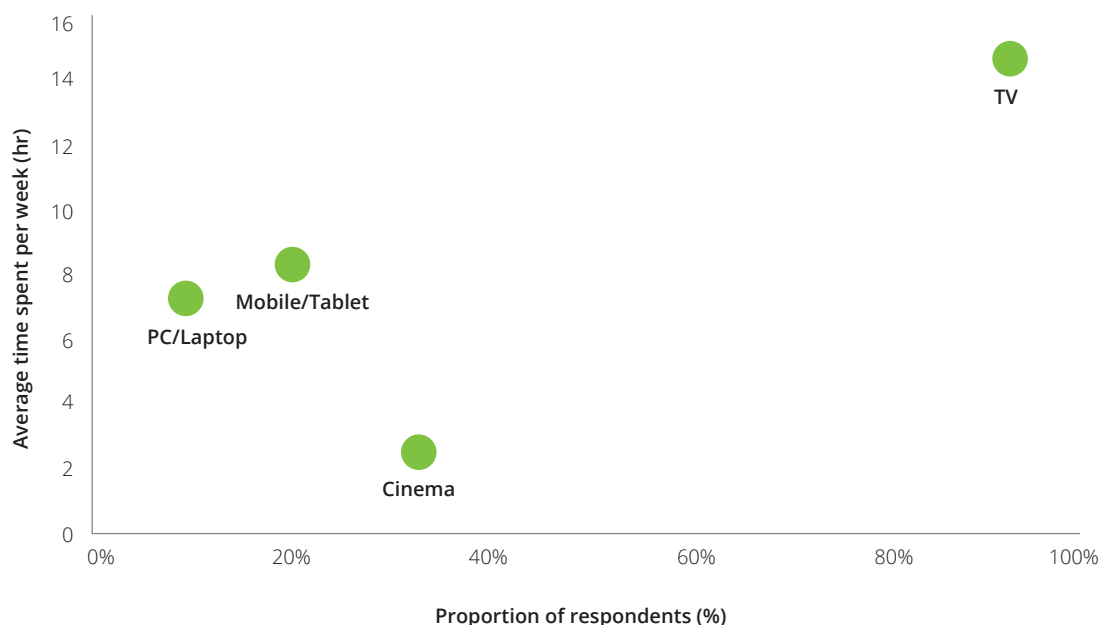
2015 was a strong year for Australian films. Australian films had their best domestic box office since 2001, earning over \$88 million (7.18% of the total) with the success of feature films such as *Mad Max: Fury Road* (\$21.7 million), *The Water Diviner* (\$10.18 million) and *The Dressmaker* (\$18.6 million). Further, the documentary film *That Sugar Film* grossed over \$1.7 million, making it the highest grossing Australian documentary ever, excluding IMAX films (MPDAA, 2016).

4.3 Additional survey findings

According to the survey, TV remains the dominant channel of consumption, followed by cinema and mobile devices.

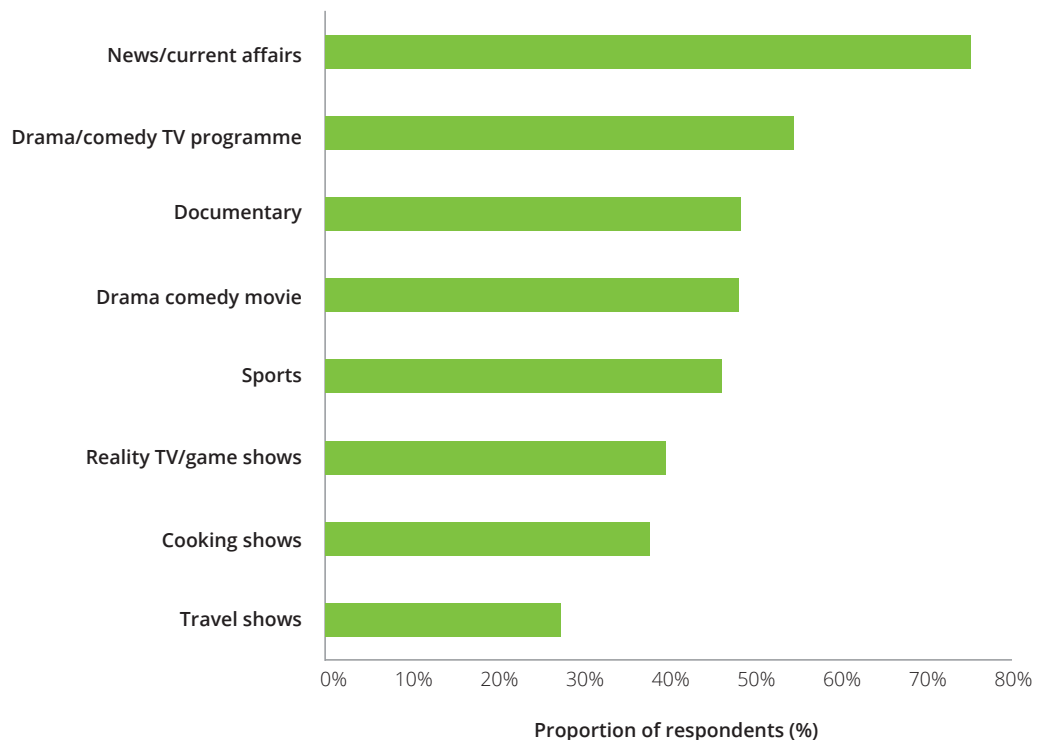
- Respondents stated that over 30% of the film and TV they watched in a typical week was Australian-made
- Over 90% of respondents said they would watch TV in a regular week, on average spending a total of 15 hours
- Around a third said they would go to the cinema, spending an average of 2.6 hours each week.
- 9% of survey respondents they watched film and TV on their mobile or tablet device and that was for around 7.3 hours each week.
- Finally, a fifth of respondents said they used their PC and laptop for screen content, spending an average of just under 8.5 hours each week.

Chart 4.1: Survey responses on time spent on screen devices for film and TV (Australian and non-Australian content)



Further, most respondents watched Australian-produced news and current affairs programs, followed by drama/comedy TV shows and documentaries. Two third of respondents said they watch Australian news/current affairs programs. Travel shows are the least popular, with only 27% reported watching, although they may reflect some overlap with documentaries.

Chart 4.2: Type of Australian screen content watched by survey respondents



Source: Deloitte Access Economics (2016), n = 2,106

4.4 Audience value of digital screen content

It is important to note that the estimates in this chapter do not capture the audience value generated by professional web-based producers in Australia that create original online videos specifically for online viewing. For example, the top ten YouTube channels from Australia have generated a total nearly 12 billion views as of August 2016.³⁴

Indeed, the rise of digital screen content has impacted the value generated for audiences. Like in many other industries, consumers have become significantly empowered by digital disruption, with increases in terms of convenience of consumption, greater choice and heightened content engagement through social media.

Convenience of content consumption

SVOD services and free catch-up services are a key facilitator of convenience as they have expanded consumer choice; with consumers no longer being restricted by TV broadcast schedules or retail/rental and cinema offerings. As noted by the Deloitte Media Consumer Survey, 30% of respondents stated they purchased a digital streaming subscription to have more choice when selecting film and TV to watch (Deloitte, 2015). Digital video recorders have also increased convenience, enabling consumers to time-shift with greater ease and offering innovative functions such as being able to pause a live television broadcast and rewind and rewatch it, or being able to fast forward through commercials.

³⁴ Data compiled from "Top YouTubers in Australia by Most Viewed" on socialblade.com

Households are also increasingly taking advantage of the ability to view screen content on multiple devices at the same time (i.e. 'multi-screening'), such as smartphones, TVs, laptops and tablets. According to the Deloitte Media Consumer Survey, 85% of Australians multi-screen while watching the TV, with 31% social networking and 30% browsing and surfing the web while doing so (Deloitte, 2015). For those that multi-screen, the flexibility to engage with other activities while they are watching content is highly valued.

Catering to niche audiences

Video on demand can also aggregate audiences with less popular content preferences, making it economical to distribute their preferred content. This allows them to provide niche content to those that would otherwise be unable to obtain it, increasing the consumer choice value for audiences.

Online distribution allows "long tail" business models to be more viable than ever.³⁵ Products that are in low demand can be aggregated and collectively sold, making up a market share similar to that of recent 'blockbuster' content. Australian consumers can greatly benefit from distributors and producers that provide the long tail of content.

Heightened content engagement

Finally, consumer engagement with content is deepened with social media integration. High levels of social media use, combined with multi-screening behaviour, means consumers can engage with film and television in new ways via social media, allowing conversations and communities to form around the content. An example of this is Twitter feeds during live television broadcasts, such as on ABC's Q&A or media events such as Eurovision or major sporting matches. As stated by Cassella (2015) in a study on the relationship between social media and television:

"Those championing the in-show use of social media saw it as a way to make the audience part of the show. The inclusive nature of social networks... allowed consumers to feel like they were 'part of something bigger', thereby make a popular media 'something out of the ordinary'."

Insight into the value generated by online originals

Research and analysis into the value of digital-online content (or online originals) is still evolving, with data and developed measures yet to be collected and interpreted in a systematic manner. However, insights into the potential value of online originals can be gained where data does exist (subject to various assumptions).

Screen Australia has contributed funds to over 140 online projects. Data collected on 21 online originals that were completed in or subsequent to 2015 have generated over 1 billion views globally to date³⁶ by specific YouTube channels, with a total time-viewed of over 544 million hours.

These measures are likely to capture a global audience, the Australian proportion of which is unclear as is the length of content 'watched'. However, even with a very conservative estimate of the value of online original content, it appears that such value is high and will grow into the future.

35 A 'long tail' business model refers to a sales model that focuses less on selling a small number of products at high volumes (e.g. the 'front-end' of a product line in terms of sales performance) and more on selling a large number of products at low volumes (e.g. the longer, 'tail-end' of a product line in terms of sales performance).

36 Consultation with Screen Australia notes that the 'views' measurement is an underestimation of each project's total views, due to measurement and collection factors.

4.5 Summary

In summary, Australian screen content generates a significant amount of audience value:

- The total audience value of Australian film and TV content viewing in 2014–15 was approximately **\$17.4 billion** in consumer welfare benefit.
 - For comparison, total Australian industry value added in 2014-15 was around \$12.8 billion for arts and recreation services.
 - Further, it is important to note that this is a consumer welfare measure, not a measure of economic contribution to GDP.



5. Cultural value

The cultural value of Australian screen content can be captured through willingness-to-pay measures that estimate the maximum amount people are willing to sacrifice in particular situations related to the production and availability of Australian screen content. This chapter:

- Discusses how Australian film and TV content can generate cultural value
- Details the approach to estimating cultural value of screen content
- Provides estimates for these cultural values.

5.1 Cultural value and screen content

Australian film and TV can have cultural value in the sense that locally produced screen content represents or contributes to the Australian cultural environment – that is, its arts, history, people, beliefs, traditions, etc. – in a way which can be quantified through economic estimates.

Film and TV can do this in a number of ways. Australian film and TV can support local creative and artistic ventures, such as the performing arts (i.e. acting), music composition, writing, costume, set design and cinematography. They can also, either through scripted narratives or non-scripted content, help document important aspects of Australian culture. Local documentaries, for example, have depicted the Australian natural landscape, its flora and fauna, and important historical events and local stories.

Locally made film and TV also serves to tell uniquely Australian stories and depict a distinctly Australian way of life. A report by Ipsos Australia (2013) for Screen Australia notes that audiences enjoy watching stories they could relate to, which had a sense of familiarity and were comprised of locations, ways of life, characters and humour that they could connect with. As Mark Scott, former managing director of the ABC (2015a) notes:³⁷

“...the work of the Australian content industry in telling Australian stories underpins Australian identity, culture and society.

Shows such as *Puberty Blues*, *The Time of our Lives*, *Redfern Now* and *The Slap* get audiences thinking and talking about Australian families and different life experiences in our shared nation.

Gallipoli, *Mabo* and *The Secret River* gave us insights into both our history and our present condition. 2014's popular political drama, *The Code*, made us think about the profound impact of the technology in which our contemporary lives are so immersed.

Some stories, like *Miss Fisher and Dr Blake*, *SeaChange* and *Rake* simply drew us together to be entertained and to laugh at ourselves.

We have developed a very vibrant Australian TV production industry and one that has provided us with so many stories about ourselves and our way of life.”

³⁷ Public broadcasters, in particular, support of Australian culture as one of their primary purposes. The ABC Charter, for example, specifies that one of the functions of the Corporation is “broadcasting programs that contribute to a sense of national identity and inform and entertain, and reflect the cultural diversity of, the Australian community” (ABC, 2015b). Similarly, the ABC Board has stated that the ABC plays a “pivotal place in Australian society as the trusted, and independent home of Australian stories and conversations” (ABC, 2015c).

Research conducted by Screen Australia also found evidence that supports the view that domestic audiences place significant importance on Australian narrative content in the feature films, TV dramas and documentaries they watch. Specifically, that 79% of people agreed (32% strongly) that Australian film and TV stories are vital for maintaining and building Australian national identity (Screen Australia, 2011).

Below are some examples of how different types of screen content can generate cultural value and contribute to Australia's cultural environment.

Feature film

Feature films portray Australian stories and artistic endeavours. This particularly occurs in instances when Australian films become highly successful at an international level, such as with the films like *"Crocodile" Dundee*, *Mad Max* or *Australia*.

Films that are well-known locally have explored Australian experiences from different angles. Some films, such as *Gallipoli*, *The Dressmaker* and *Rabbit-Proof Fence* have captured Australian experiences in ways that have not been done before. Similarly, films such as *Holding the Man*, *Paper Planes* and *The Sapphires* were based off actual real-life Australian stories.

Other films, including comedies such as *The Adventures of Priscilla: Queen of the Desert*, *The Castle* and *Muriel's Wedding*, have been embraced by collective popular culture as "classics", with references, imagery and themes from these films becoming part of the national identity and cultural lexicon.

Documentaries

Documentaries have helped raise awareness on numerous issues in contemporary Australia and they often explore difficult themes and ideas through a different creative lens. For example, the recent documentary film *That Sugar Film* explored the negative health associated with the consumption of high levels of sugar. Similarly, documentaries such as *Utopia* explored issues among Indigenous Australians and *Frackman* highlighted activism against the coal seam gas industry.

Children's television

One aspect of how TV and film contributes to the cultural environment is through children's content. For example, Australian content on ABC Kids allows children to hear Australian accents and see their local communities on screen devices. In 2014–15, 27% of all broadcast hours on ABC Kids was Australian and included popular local shows such as *Bananas in Pyjamas*, *Ready Steady Wiggle!* and *Play School* (ABC, 2015d).

Factual television

The cultural contribution of Australian screen content also extends beyond just Core content such as feature film and drama TV. Broad content, including non-fictional TV content can inform and educate audiences as well as stimulate public debate. Examples of such programs include current affairs programs such as *Inside Story*, *Today Tonight* and *A Current Affair*. It also includes other programs such as *Catalyst* (science journalism), *Media Watch* (media analysis and commentary) and *The Checkout* (consumer affairs and advocacy).

Some programs provide interesting glimpses into the lives of other Australians. Examples include *Territory Cops* (police in the Northern Territory), *Bondi Rescue* (lifeguards on Bondi Beach), *The Embassy* (diplomats and embassy personnel) and *Border Security: Australia's Front Line* (customs and border protection officers).

Some broadcasters also cover certain themes or topics at particular times of the year. This includes ABC's Mental As initiative held during Mental Health Week (ABC, 2016) and programming by the ABC that covered Indigenous topics during NAIDOC (National Aboriginal and Islander Day Observance Committee) week (ABC, 2015e).

Light entertainment

As with factual television, light entertainment shows such as lifestyle or cooking shows are a part of Broad content which also serve to capture Australian values, ways of life or generate stories, thus contributing to cultural environment. Often these shows are shared and discussed and there is a community generated around this content. This is particularly important given that Broad content often reaches more Australians than just Core content.

5.2 Approach to estimating cultural value of screen content

Cultural value generated by Australian screen content has a value in terms of its contribution to the overall cultural environment of the country in a way that cannot be allocated to individuals. Because of this, a particular economic approach is needed to estimate cultural value from the existing survey data.

5.2.1 Contingent valuation

The value of Australian stories on screens to national culture, for example, is a non-market good where the price of the good cannot be observed through market transactions. As such, it is important to measure the cultural "non-use" value of Australian screen content – that is, the value that Australians gain from of locally made film and TV, even when they do not directly purchase and consume the content themselves.

These values can be estimated using an approach known as Contingent Valuation (CV). CV is a method of placing a market value on non-market resources (such as the natural environment or a cultural institution) through survey based economic techniques (Carson et al, 2001). The survey questions seek to estimate the willingness-to-pay for various scenarios related to the non-market resource, use and non-use. These findings can then be extrapolated to an Australia-wide value.

This report draws on the data from the survey which was fielded in order to estimate the contingent valuation of two non-use values (Frey, 1997):

- **Option value** – the value people place on seeing screen content even if they personally do not watch it.
- **Existence/altruism value** – the value of being in a society where other people can watch screen content, regardless of whether they watch it themselves.

It is important that people face a choice in putting a value on something that is not used. It cannot simply be an unbounded option to value something without constraint. To ensure respondents were presented with a budget constraint, the survey also asked people what they would be willing to pay to Australian film and TV from a given amount of money, if that amount could also be redirected towards a tax cut for them. This was used to estimate a more general **public support value**.

5.2.2 Limitations and interpretation

The use of survey data to measure value must be caveated. For one, there may be differences between people's stated preference and their actual preferences that goes unobserved. For another, there may be an underestimate of value if respondents are only willing to pay what they think non-market goods and services should cost rather than how much they actually benefit from it.

The public support value for Australian TV and film content can also be affected by a number of factors – for example, respondents may think that higher levels of government support will reduce the purchasing price of future Australian films and TV shows.

Because the survey inquired about willingness to pay for all Australian screen content (that is, the option, existence/altruism and public support value of Broad content), there is also uncertainty around how much of the total willingness to pay can be attributed to Core content over other content that is viewed.

It is important to note that the results presented in this chapter cannot be compared with other commonly used measures of value, such as GDP. These estimates also do not net out the cost to consumers, governments, or any

opportunity costs that are associated with creating and viewing Australian film and TV. In this sense, therefore, they are gross benefit measures. Finally, as these values are not revealed through a transaction, they must be considered under a separate valuation framework to the economic contribution results.

5.3 Non-use value estimates

It is estimated that the average Australian is willing to pay around **\$28 a year** to have the option to watch Australian-made screen content in the future, regardless of whether or not they watch Australian film and TV currently. When this estimate is scaled up to the entire adult population of Australia,³⁸ the total willingness to pay for the option to view Australian-made screen content is approximately **\$511 million a year**.

Similarly, it is estimated that the average Australian is willing to pay around **\$22 a year** for others to have the option to watch Australian film and TV, regardless of whether they personally wish to watch it at any point in time. This option/altruism value could reflect a number of sentiments. For example, these individuals place value on others having the freedom to access information about politics and current events, or value screen content being uncensored and unrestricted. When this finding is applied to Australia's adult population, the total willingness to pay for others to have the option to view Australian screen content is approximately **\$415 million a year**.

Table 5.1: Option value and Existence/altruism value

	Option value	Existence/altruism value
Willingness to pay	\$27.6/person	\$22.4/person
Total value	\$510.9 million	\$414.9 million

Source: Deloitte Access Economics (2016)

As a point of comparison with either the option value or existence/altruism value reported here, the non-use value of the Sydney Opera House – one of the most famous cultural icons in Australia – is estimated at \$2.1 billion (Deloitte Access Economics, 2013).

The survey also revealed that consumers value Australian film and TV content above private monetary gains. When asked how government should allocate a hypothetical pool of money worth \$100 between funding Australian film and TV and a tax break, the average survey respondent said around **\$55 should be spent on Australian screen content**. Scaling this up by the Australian adult population suggests that the total willingness-to-pay for Australian screen content, according to this trade-off, is **\$1.02 billion**.

Table 5.2: Option value and Existence/altruism value

	Public support value
Willingness to pay	\$55.28/person
Total value	\$1,023.7 million

Source: Deloitte Access Economics (2016)

For comparison, Australian feature film and drama TV in production in 2014-15 received approximately \$58 million in direct funding from government sources (i.e. Australian state and federal agencies and funding bodies) as well as \$77 million cash-flowed by producers through the Producer Offset and \$7.4 million cash-flowed through the PDV Offset for TV (Screen Australia, 2015a). In addition to this, documentaries received

³⁸ This is calculated as the resident population of Australia which is over the age of 18. This was approximately 18.5 million in 2015 (ABS 3101.0 September 2015).

\$25 million in direct funding from Screen Australia and state agencies and \$18 million through the Producer Offset in 2014-15 (Screen Australia, 2016b).

Further, government expenditure in 2014-15 in public broadcasting came to around \$1.43 billion (Australian Government, 2016). It is worth noting that this expenditure figure for public broadcasting covers the general operations of the ABC and SBS, which also includes radio and internet services, as well as their transmission and distribution services. As such, this is not a directly equivalent comparison with the public support value estimated here.

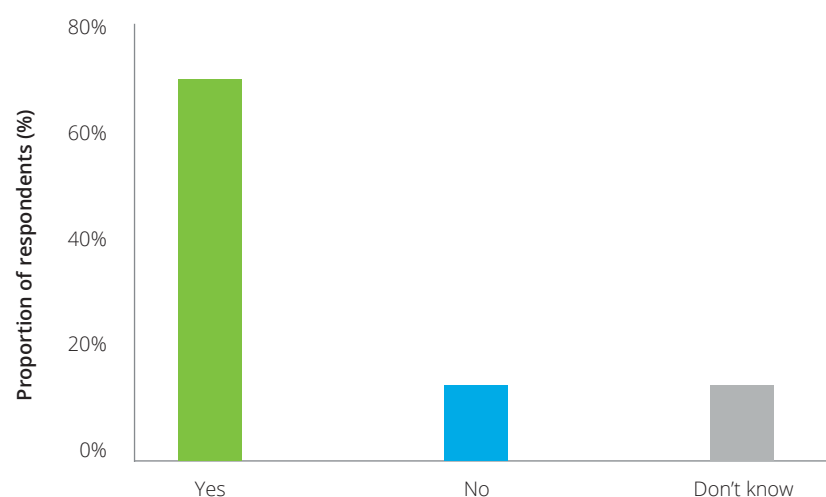
The \$1.02 billion willingness-to-pay figure estimated in this report suggests that there is high public support in Australia for the continuation of domestic screen content production. Given the altruism value estimated in this report is also significant (\$415 million in total), this also indicates that the public support for Australian content is not merely a reflection of personal film and TV consumption, but also encompasses the non-use value of domestic screen content to the general Australian public.

5.4 Other survey findings

The survey also revealed other findings with regards to people's attitudes towards Australian film and TV content:

- **Children** – of the survey respondents with children under the age of 13, around 76% said it was at least slightly important that their children watch Australian film and TV. Of those that said it was important, around 61% said it was important because Australian children's content is educational and 46% said it was because the content contributes to children's cultural identity.
- **Availability** – 46% of respondents said there is not enough Australian film or TV.
- **Differentiation** – 85% of respondents said Australian film and TV are different from overseas screen content. 72% of respondents said they thought the quality of Australian film and TV content was as good as or better than overseas content.
- **Cultural identity** – 44% of respondents said Australian film and TV are a key part of Australian cultural identity. Film and TV was rated above 'laws and institutions', but below 'songs and music'.
- **Government support** – around 76% of Australians believe government should provide support to the Australian screen sector. Approximately 12% opposed the idea and 12% also said they don't know (Chart 5.1).

Chart 5.1: Survey responses on government support for Australian screen sector



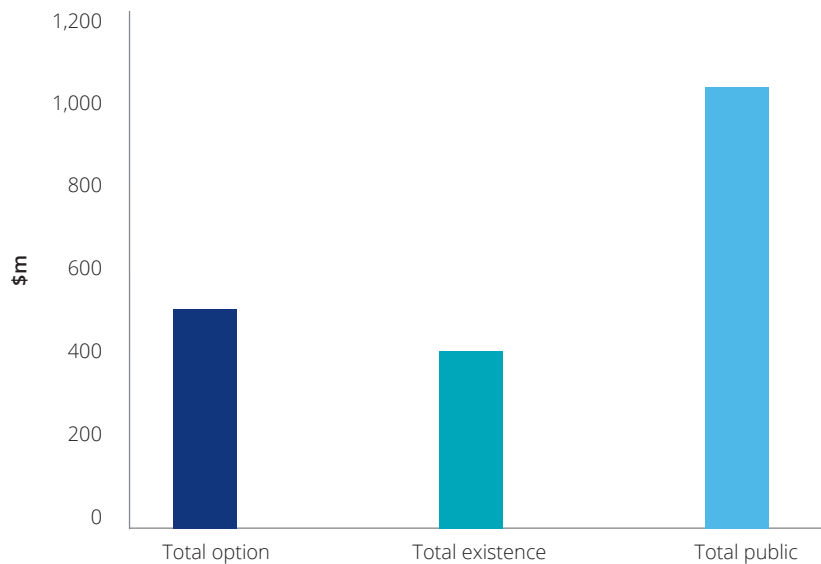
Source: Deloitte Access Economics (2016), n = 928

5.5 Summary

The cultural value of Australian film and TV content is significant. This chapter has found that:

- When we estimate the Australia-wide option value (the value of individuals personally having the option of viewing Australian content in the future) we find a non-use value of approximately **\$511 million** a year.
- When we estimate the Australia-wide existence/altruism value (the value that they have in other people being able to watch Australian content in the future), we find a non-use value to be approximately **\$415 million** a year.
- Further, when asked how much government should allocate between film and TV and a maximum of a \$100 tax cut, the combined response suggests a value of film and TV of approximately **\$1.02 billion** a year.

Chart 5.2: Cultural value estimates of Australian film and TV



Source: Deloitte Access Economics (2016)

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Appendix A – External stakeholders

As listed below in Table A.1, eight stakeholder interviews were held with individuals from a number of areas of expertise, including stakeholders in the areas of production, film distribution, documentary filmmaking and digital distribution.

Table A.1: External stakeholder consultations

Stakeholder	Sector/area of expertise
AusFilm	Footloose productions
Australian Broadcasting Corporation (ABC)	Public free-to-air TV, online catch-up TV service
Foxtel	Subscription TV
FreeTV	Commercial free-to-air TV
Matchbox Pictures	Domestic production
Media Entertainment & Arts Alliance (MEAA)	Production cast and crew
Shark Island Institute	Documentaries
Transmission Films	Distribution



Appendix B – Government support

Table B.1 below lists the government support that is received by the domestic production subsector for the production of feature film, TV and documentaries. Total direct support comes to approximately \$185.5 million.

Additionally, government expenditure in 2014-15 in public broadcasting was around \$1.43 billion (Australian Government, 2016). This figure includes the radio and internet services of the ABC and SBS, as well as their transmission and distribution services.

Table B.1: Government support for the domestic screen sector, 2014–15

Government support for 2014–15	\$m
Direct government sources (features)	25.3
Producer Offset (features)	39.4
Direct government sources (TV)	32.9
Producer Offset (TV)	37.5
PDV Offset (TV)	7.4
Direct government sources (documentaries)	25
Producer Offset (documentaries)	18
Total	185.5

Source: Screen Australia (2015a) Drama Report, Screen Australia (2016b) "Documentary Finance".

It should be noted that offsets are not included in standard value add estimates. This is because value add captures the contribution to the economy which an entity generates through its activities, regardless of who it accrues to. Therefore, value add is reported as pre-tax. Offsets are in essence tax rebates, these are transfers which take place post-tax so they do not factor into value add. For example, if a company has a value add of \$1 billion, and \$500 million is taxed and \$250 million of this tax is rebated, it is still the case its contribution to GDP is \$1 billion.

However, subsidies are subtracted from value-add. The reasoning is that this is a direct payment from the government and represents value that is taken from elsewhere. It does not represent the value that an entity produces on its own through its use of capital, labour and intermediate inputs and should not be counted as part of the entity's contribution to GDP.

Appendix C – Survey results

Survey breakdown

Total sample	1,049
Domestic	928
International	121

Age	Count	Share
18–24	83	7.9%
25–34	144	13.7%
35–44	192	18.3%
45–54	206	19.6%
55–65	193	18.4%
65 and over	231	22.0%
Total	1049	100.0%

Gender	Count	Share
Male	513	48.9%
Female	534	50.9%
Other	2	0.2%
Total	1049	100.0%

Gender	Count	Share	Share (Intl.)
Australia	928	88.5%	
New Zealand	31	3.0%	26%
UK	30	2.9%	25%
USA	30	2.9%	25%
Canada	30	2.9%	25%
Total	1049	100.0%	

Children under 13	Count	Share
Yes	195	21.0%
No	733	79.0%
Total	928	100.0%

Appendix D – Consumer choice value and time-use elasticity

Calculating consumer choice value

The benefit to consumers of film and TV variety is difficult to measure, although economic theories of consumer choice attempt to capture this. Hausman (1997), for example, shows the consumer benefits of the introduction of a new product is equivalent to the welfare effect of a reduction in the price of the product from the price at which demand is zero to its current price.

That is to say, a benefit which accrues to consumers under a scenario in which a new good is introduced at a price P is equivalent to the benefit which accrues to them under a scenario where the new good was initially priced prohibitively high at \bar{P} (a price just high enough so that no one wants to buy it) and falls down to price P .

This theoretical consideration can be exploited to model real-world examples of consumer choice. One fully worked example is provided by Brynjolfsson et al (2003). In it, the value of increased consumer welfare from increased book variety on Amazon.com is compared with a traditional book store and estimated to be between US\$731 million and US\$1.03 billion.

That study estimated these benefits by looking at how much prices would have to fall to make the book buyer as well off as the new product offering.

The compensating variation (CV) is a function of the amount of new sales and the willingness of consumers to switch between products (the price elasticity) where $p_{n1}x_1$ is the post-introduction price and quantity of the new product; and α is the price elasticity:

$$CV = -\frac{p_{n1}x_1}{1 + \alpha}$$

Calculating the elasticity of substitution

As shown in Goolsbee et al (2006), time-use value can be estimated by capturing the relationship between time spent consuming screen content and the opportunity cost of time.

This relationship can be used to estimate the consumer welfare from screen content which depends on a consumer's willingness to switch between screen content and other leisure activities. Economic theory predicts that, as wages rise, the opportunity cost of time rises, so time spent on screen content should decrease. In order to measure this willingness, the elasticity of substitution between screen content and other leisure activities needs to be measured.

Using the survey data, which included income data and time spent watching television, this report regressed (the natural logs) of the share of leisure time spent on non-television activity with income:

$$\ln\left(\frac{Non-TV}{TV}\right) = \alpha + \beta \ln(wage) + \varepsilon$$

Where $\left(\frac{Non-TV}{TV}\right)$ is equivalent to the share of leisure time spent on activities other than television, α is a constant, $wage$ is the weekly wage and β is the coefficient that is being estimated and ε is the error term. From the regression analysis, we find a β coefficient of 0.113. As solved for in the theoretical model in Goolsbee et al (2006), the elasticity of substitution σ is calculated as:

$$\sigma = \frac{\beta}{a_0 - a_1} + 1$$

Where $a_0 - a_1$ is the expenditure share differential, which is calculated in the Goolsbee et al (2006) paper as 0.38. Applying the estimate from the paper with the β coefficient, the elasticity σ is calculated to be 1.30.

Appendix E – Economic contribution studies

Framework for assessing economic contribution

Economic contribution assessments quantify measures such as value add and employment associated with given industry or firm, in a historical reference year. The economic contribution is a measure of the value of production by a firm or industry.

In this study, the total economic contribution of the Australian screen sector represents the sum of the industry's direct and indirect contributions to the economy:

- The direct economic contribution of the screen sector is the value add created by labour and capital inputs employed directly by the screen industry. Direct activities related specifically to the screen sector include film and television production, distribution, and exhibition.
- The indirect contribution is a measure of the demand for goods and services produced in other sectors of the economy as a result of the direct economic activity from the screen sector. The size of this flow-on activity is dictated by the extent of linkages with other supplier sectors of the economy. Estimation of the indirect contribution is undertaken in an IO framework using Australian Bureau of Statistics (ABS) IO tables.

All direct, indirect and total contributions are reported as gross operating surplus (GOS), labour income, value add and employment (with these terms defined in Table E.1).

Table E.1: Definitions of economic contribution estimates

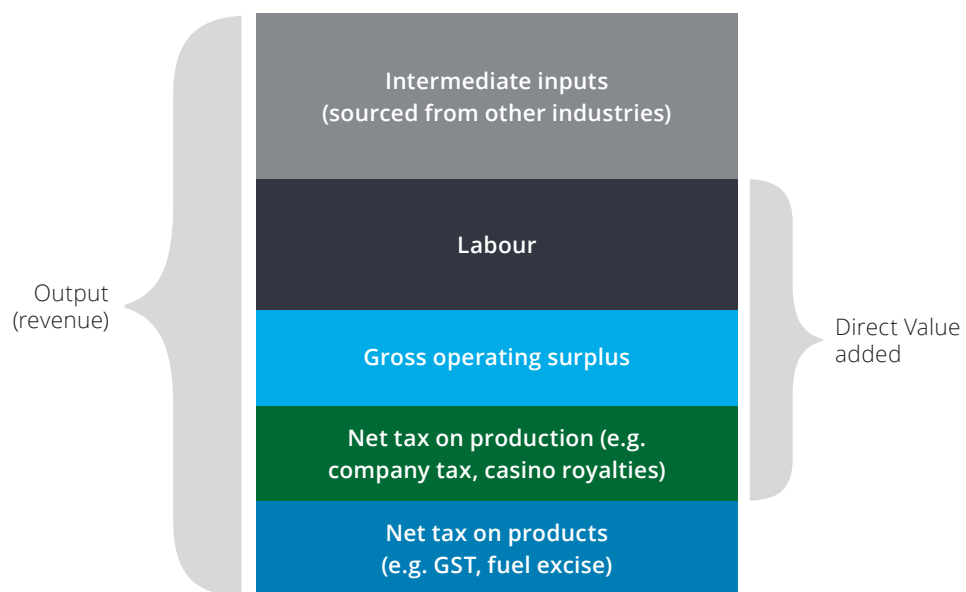
Estimate	Definition
Gross operating surplus (GOS)	GOS represents the value of income generated by the entity's direct capital inputs, generally measured as the earnings before interest, tax, depreciation, and amortisation (EBITDA).
Labour income	Labour income is a subcomponent of value add. It represents the value of output generated by the entity's direct labour inputs, as measured by the income to labour.
Value add	Value add measures the value of output (i.e. goods and services) generated by the entity's factors of production (i.e. labour and capital) as measured in the income to those factors of production. The sum of value add across all entities in the economy equals gross domestic product. Given the relationship to GDP, the value add measure can be thought of as the increased contribution to welfare.
Employment (FTE)	Employment is a fundamentally different measure of activity to those above. It measures the number of workers (measured in full-time equivalent terms) that are employed by the entity, rather than the value of the workers' output.
Direct economic contribution	The direct economic contribution is a representation of the flow from labour and capital committed in the economic activity.
Indirect economic contribution	The indirect contribution is a measure of the demand for goods and services produced in other sectors as a result of demand generated by economic activity.

Estimate	Definition
Total economic contribution	The total economic contribution to the economy is the sum of the direct and indirect economic contributions.

Source: Deloitte Access Economics (2016)

Figure E.1 shows the accounting framework used to evaluate economic activity, along with the components that make up gross output. Gross output is the sum of value add and the value of intermediate inputs. Value add can be calculated directly by summing the payments to the primary factors of production, labour (i.e. salaries) and capital (i.e. gross operating surplus, 'GOS', or profit), as well as production taxes less subsidies. The value of intermediate inputs can also be calculated directly by summing up expenses related to non-primary factor inputs.

Figure E.1: Economic contribution accounting framework



Source: Deloitte Access Economics

Limitations of economic contribution studies

While describing the geographic origin of production inputs may be a guide to a firm's linkages with the local economy, it should be recognised that these are the type of normal industry linkages that characterise all economic activities.

Unless there is significant unused capacity in the economy (such as unemployed labour), there is only a weak relationship between a firm's economic contribution as measured by value add (or other static aggregates) and the welfare or living standard of the community. Indeed, the use of labour and capital by demand created from the industry comes at an opportunity cost as it may reduce the amount of resources available to spend on other economic activities.

This is not to say that the economic contribution, including employment, is not important. As stated by the Productivity Commission in the context of Australia's gambling industries:

Value added, trade and job creation arguments need to be considered in the context of the economy as a whole ... income from trade uses real resources, which could have been employed to generate benefits elsewhere. These arguments do not mean that jobs, trade and activity are unimportant in an economy. To the contrary they are critical to people's well-being. However, any particular industry's contribution to these benefits is much smaller than might at first be thought, because substitute industries could produce similar, though not equal gains.

In a fundamental sense, economic contribution studies are simply historical accounting exercises. The contribution is independent of a counterfactual scenario, it is simply a measure of the value add or employment created by the industry. Contribution studies therefore cannot be used to say anything about how much larger the economy is relative to a counterfactual and, in particular, the results cannot be interpreted as the benefit created by the industry or saying that the economy is larger by the contribution measured relative to if the industry did not exist.

The analysis assumes that goods and services provided to the sector are produced by factors of production that are located completely within the state or region defined and that income flows do not leak to other states. The derivation of the multipliers also assumes that the relevant economic activity takes place within an unconstrained environment. That is, an increase in economic activity in one area of the economy does not increase prices and subsequently crowd out economic activity in another area of the economy. As a result, the modelled total and indirect contribution can be regarded as an upper-bound estimate of the contribution made by the supply of intermediate inputs.

Similarly, this modelling framework does not account for further flow-on benefits as captured in a more dynamic modelling environment like a Computable General Equilibrium model.

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