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Economic assessment of the Location Incentive on Australia's screen sector

Working paper

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BCARR estimates that the Location Incentive could generate over $4.3 billion in expenditure in Australia by international film and television productions through to 2026–27

Executive summary

Screen drama production spend reached a record $1.9 billion in Australia in 2020–21, driven by increases in both Australian and foreign feature films.

The Australian Screen Production Incentive provides a valuable source of support for the Australian screen sector. This funding generates economic benefits to metropolitan and regional areas of Australia as well as having regional tourism and cultural impacts.

This paper assesses the current and future economic benefits of one aspect of the Australian Screen Production Incentive, the Location Incentive (the incentive), to provide early indications on the impacts of the program on the Australian screen industry and economy more broadly.

The incentive is a grants-based program that aims to attract large budget international film and television productions to film in Australia.

The incentive also aims to provide job and training opportunities for Australians in the screen sector and improve the sector's capability and future viability. The incentive awards successful recipients with a grant amount of up to 13.5 per cent of their qualifying Australian production expenditure (QAPE).[I] Introduced in 2018, funding under the incentive was increased and extended in July 2020 to provide total financial assistance of $540 million to 2026–27.

- BCARR estimates that the incentive could generate over $4.3 billion in production expenditure in Australia spent by international film and television productions through to 2026–27.
- The incentive has already attracted up to $1.57 billion in production expenditure in Australia to 2020–21 and a further $2.79 billion could be attracted by the end of the program.
- Between 2018–19 and 2020–21, the incentive has created an estimated 39,100 jobs, including 27,800 full-time equivalent positions and supported 13,100 businesses.
- By 2026–27, the incentive will create an estimated 108,800 jobs, including 43,500 full-time equivalent positions, and support over 36,000 Australian businesses.
- This is an additional 69,600 jobs created and support for a further 23,400 businesses from 2021–22.

Additional benefits expected from the incentive include gains from filming in regional areas, an expansion of Australia's screen industry, greater skills development for Australian screen sector workers, as well as regional tourism and cultural impacts.

I Production expenditure in Australia refers to the QAPE and is the applicant company's production expenditure on the production to the extent it is incurred for, or reasonably attributable to goods and services provided in Australia, or the use of land or goods located in Australia. QAPE is defined by section 376–145 of the *Income Tax Assessment Act 1997*.

Government support for the Australian screen sector

The Australian screen sector is an important contributor to the nation's cultural life that showcases the talents and creativity of our actors, writers, producers, directors and production and post-production workers. The majority of government support to the screen production sector is provided by the Australian Government through both direct investment and significant tax incentives.

Between 2016 and 2021, Australian governments contributed 42 per cent of finance for Australian film features and around 25 per cent of finance for Australian television and online drama.[1] Australia's public broadcasters (the ABC and SBS) also contributed funding to these productions. This underscores the importance of government support to the screen production industry.

All state and territory governments offer financial incentives to qualifying film and television productions.[2] In addition to any Commonwealth and state and territory incentives, the Gold Coast local government area also offers incentives based on the value of production undertaken on the Gold Coast.

IMAGES: *La Brea*; images by Sarah Enticknap. Courtesy of NBCU/Matchbox Pictures

Australian Screen Production Incentive

The Australian Screen Production Incentive is the Australian Government's main way of supporting the Australian screen production industry. It includes grants and tax offsets for Australian film and television productions, to attract large budget international film and television productions to film in Australia, and for post-production work undertaken in Australia regardless of whether the production is filmed here or overseas.

There has been $1 billion in administered payments for the Australian Screen Production Incentive from July 2018 through to June 2021.

The Australian Screen Production Incentive comprises four major streams of funding:

1. The Producer Offset – a 40 per cent rebate on the production expenditure in Australia of Australian films released theatrically and a 30 per cent rebate for other eligible formats.
2. The Post Digital and Visual Effects (PDV) Offset – a 30 per cent rebate on the production expenditure in Australia of any PDV production undertaken in Australia (including those filmed overseas).
3. The Location Offset – a 16.5 per cent rebate on the production expenditure in Australia of large budget film and television productions shot in Australia. These are usually major international productions.
4. The Location Incentive grant program complements the Location Offset. The incentive is a merit-assessed grant program where funding of up to 13.5 per cent of a production's expenditure may be offered to large budget international screen productions that commit to filming in Australia and perform strongly against the assessment criteria.

The incentive is in addition to the Government's existing Location Offset. Together, the two programs mean that a film production may receive financial assistance of up to 30 per cent of its production expenditure in Australia. Eligibility to receive the Location Incentive is dependent on receiving support from one or more Australian state or territory governments.[3]

The Location Incentive

The main objective of the incentive is to make sure Australia remains competitive in attracting large budget 'footloose' international film and television productions.

A footloose production is one that has not already committed to filming in a particular country. Being internationally competitive provides opportunities for Australian cast, crew, post-production companies and other screen services to participate in these productions. The incentive aims to contribute to the development of the Australian screen production sector and help its future viability.

The Australian Government initially announced funding of $140 million for the incentive in May 2018. In 2020, the Government committed a further $400 million until 2026–27. The additional funding will extend the pipeline of screen productions coming to Australia and create new job and training opportunities for Australians.

Before the establishment of the Location Incentive, ad hoc grants would often supplement the Location Offset. This meant that the financial assistance offered could be close to 30 per cent of production expenditure in Australia for some productions.[4] However, this funding was inconsistent and unpredictable, affecting Australia's capacity to attract large budget international film and television productions.

While the incentive is the focus of the analysis in this report, other film incentives, as well as other external factors, may influence the decision of a production to commit to filming here. For example, it is mainly the financial support offered by the incentive and the Location Offset combined, that attracts productions to Australia. Other factors could include Australia's comparatively successful response to COVID–19, its cast, crew and film and studio facilities, its favourable exchange rate or its locations and weather. It is not possible to isolate the impact of the Location Incentive alone from the information available.

State of the Australian screen sector

The Australian screen sector, or motion picture and video production industry, involves the production, distribution, exhibition and post-production processes for television and film productions.

The sector represents about $3 billion in industry value added,[II] which also includes sound recording activities (Table 1).[5] The number of businesses in the sector has been increasing steadily over the past five years to more than 10,000 businesses in 2020–21.

IMAGE: Film maker, Australia. Getty Images

II Industry value added is the measure of the contribution by businesses in each industry to gross domestic product.

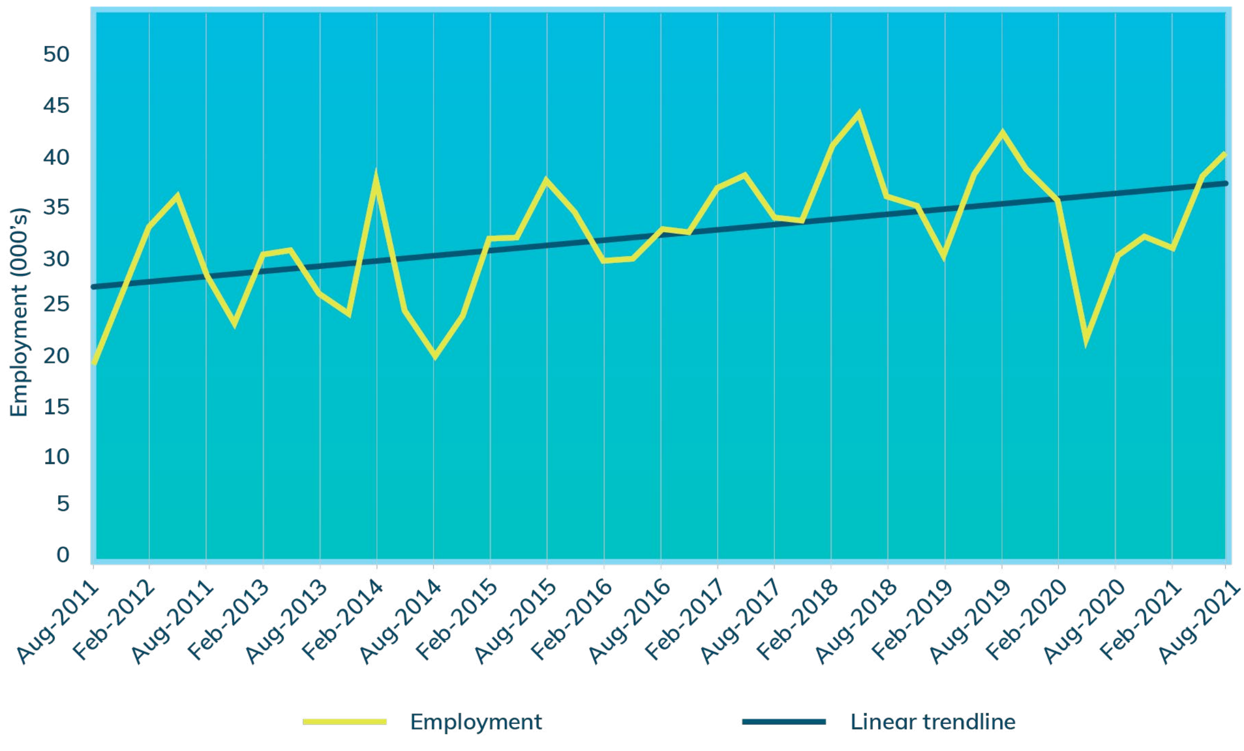
Table 1. Motion picture and sound recording industry employment, businesses and value added

Financial year	Employment	Business counts	Industry value added ($m)
2016–17	38,000	8,900	2,800
2017–18	44,000	9,300	2,900
2018–19	38,000	9,700	3,100
2019–20	22,000	9,900	2,900
2020–21	37,000	10,400	-

Source: BCARR analysis of ABS data. Employment data is for May of the corresponding financial year. Industry value added data is not available for 2020–21.

Employment in the sector almost halved from 38,000 workers in May 2019 to 22,000 in May 2020 due to the impact of the COVID–19 pandemic. Employment levels have since recovered, with 37,000 workers employed in May 2021 and 40,000 employed in August 2021.[6] Employment has fluctuated considerably in the last decade but the trend has steadily increased over time (Figure 1).

Figure 1. Motion picture and sound recording activities employment



Source: BCARR analysis of August 2021 ABS Labour Force data.

Of the 10,000 businesses in the screen sector in 2019–20, around 8,200 relate to motion picture and video production (rather than sound recording).[7] Two thirds (or 66 per cent) of these businesses were non-employing,[III] with another 31 per cent employing fewer than 20 employees and 3 per cent employing more than 20 people.

Screen sector businesses were concentrated in New South Wales (45 per cent), Victoria (28 per cent) and Queensland (13 per cent), with the remaining 14 per cent spread across the other states.

Most businesses in the sector were in motion picture and video production (81 per cent), followed by post-production services and other motion picture and video activities (11 per cent). The remaining 7 per cent of businesses were split across distribution and exhibition (Table 2).

Table 2. Business counts in the screen sector

Financial year	Motion picture and video production	Motion picture and video distribution	Motion picture exhibition	Post-production and other activities	Total
2016–17	5,950	260	360	860	7,430
2017–18	6,210	250	360	910	7,720
2018–19	6,520	240	360	970	8,080
2019–20	6,690	240	360	950	8,240

Source: BCARR analysis of ABS Counts of Australian Businesses, including Entries and Exits as at 24 August 2021. This table includes only relevant screen sector classes within the Motion picture and sound recording activity subdivision. Music publishing and Music and other sound recording activities classes are excluded.

Production in the Australian screen sector

Screen production in Australia has increased over the past 25 years. Feature film production has increased significantly since 2010, driven by a sharp rise in the number of foreign productions filming in Australia each year (Table 3). This is despite the dampening effects of the COVID–19 pandemic that saw a near decade low of only 47 domestic and international productions filming in Australia in 2019–20. The number of domestic Australian productions each year has grown at a steadier pace, while annual production spend for both Australian and foreign productions has increased over time.

Table 3. The average number of productions and spend in Australia by feature films

	Australian productions		Foreign productions		All productions	
Period	Productions per year	Spend per year ($m)	Productions per year	Spend per year ($m)	Productions per year	Spend per year ($m)
1995–2000	27	106	3	66	30	172
2001–2010	31	178	11	142	41	320
2011–2020	38	251	21	240	59	491

Source: BCARR analysis of Screen Australia feature film spend in Australia.[8] Data is for financial years. Includes foreign productions undertaking only PDV work in Australia from 2007 onwards. Spending data is in nominal values.

III Non-employing businesses are sole proprietorships and partnerships without employees.

In contrast to feature films, television drama productions remain dominated by domestic Australian productions (Table 4). The number of productions each year has been relatively stable since the late 1990s while the amount spent each year has increased more modestly than for feature films.

Table 4. The average number of productions and spend in Australia by television drama

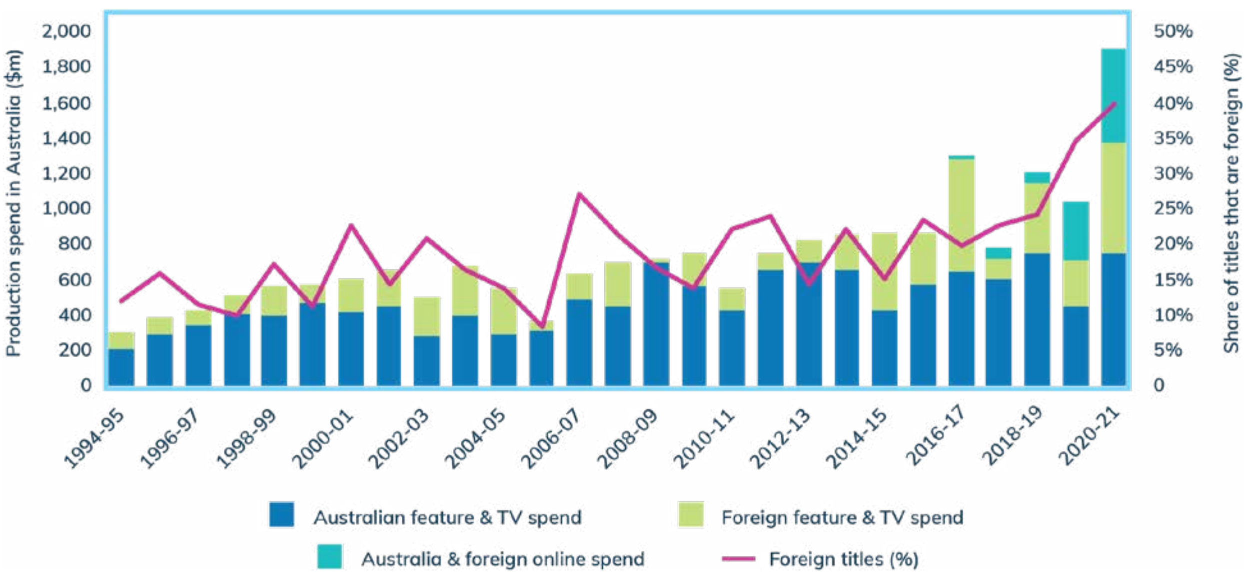
	Australian productions		Foreign productions		All productions	
Period	Productions per year	Spend per year ($m)	Productions per year	Spend per year ($m)	Productions per year	Spend per year ($m)
1995–2000	47	251	8	42	55	292
2001–2010	42	260	5	39	47	299
2011–2020	49	339	5	31	53	370

Source: BCARR analysis of Screen Australia television drama production spend in Australia.[9] Data is for financial years. Includes foreign productions undertaking only PDV work in Australia from 2007 onwards. Spending data is in nominal values.

Drama production spend reached $1.9 billion in Australia in 2020–21, a record spend. This was driven by both Australian and foreign feature films. There was $874 million expenditure by Australian titles, including $500 million on features in 2020–21. Over the year there were 63 foreign projects that commenced with spending of $1.04 billion. Additionally, online drama was up by 62 per cent in a year to $536 million, the highest since tracking began in 2016–17. This includes 25 Australian online drama titles spending $125 million and 35 foreign online drama titles spending $411 million.

The amount spent by productions can fluctuate significantly from year to year, largely depending on the number of big-budget international film productions attracted to Australia (Figure 2).[10] This impacts employment and business counts. Generally, Australia's government incentives, high-quality screen facilities and comparatively low production costs have attracted many international film and television projects over the last five years.[11]

Figure 2. Drama production and post-production spending in Australia and share of foreign productions



Source: BCARR analysis of Screen Australia data on drama productions and spend in Australia.[12] Online drama data is available from 2016–17 and includes single episodes or series titles with total durations of 30 minutes or more that have their first Australian release online. Productions under foreign creative control with a substantial amount shot in Australia are considered foreign productions. Includes production and post-production spend, and foreign productions undertaking only PDV work in Australia from 2007 onwards. Spending data is in nominal values.

Box 1: What factors influence where a production is made?

Several factors influence the location decisions made by footloose productions. These include creative factors, risk management, financial and practical considerations as well as how these factors compare with other production markets.

Creative

- Locations that support the script
- Environmental diversity and weather conditions

Risk

- Safety and stability
- Government regulation and visa access
- Supplier risk and access to finance
- COVID–19 quarantine and other regulations

Financial

- Wages and rental costs
- Exchange rates
- Government incentives

Practical

- Economies of scale and the size of the local market
- Geographic distance and time differences
- Transport and logistics
- Language barriers
- Access to skilled labour and key cast
- Access to filming facilities and studios

Impacts of COVID–19 on the sector

The COVID–19 pandemic affected economic activity across Australia, including in the motion picture and video production industry. Screen Australia has noted how COVID–19's impact on large-scale productions led to increased costs because of disrupted schedules and postponements due to restrictions impacting access to locations, cast and crew.[13] Overall spend on drama in Australia contracted in 2019–20, but nearly doubled to a new record of $1.9 billion in 2020–21. Several broad factors affected these results, including the number of COVID–19 cases in Australia compared to other countries, the evolution of COVID–safe work practices, additional funding from Australian governments including the expansion of the Location Incentive, and further changes to regulation and supports.[14]

Figure 3 shows there was a sharp fall in employment during the early stages of the COVID–19 pandemic based on payroll data for the motion picture and sound recording activities industry. Payroll data shows employment for the industry was at its lowest level in April 2020 and that the fall in employment for the sector was greater than that of the economy as a whole. The sector rebounded in late 2020 but the gap in employment with the rest of the economy widened again in the second half of 2021 as New South Wales and Victoria experienced greater COVID–19 restrictions.

Figure 3. Single-touch payroll employment for Motion Picture and Sound Recording Activities subdivision

Source: Weekly Payroll Jobs and Wages in Australia, Week ending 16 October 2021, ABS. Employment levels are compared against the base where the index was 100 which was at the week ending 14 March 2020 (the 100th reported case of COVID–19 in Australia).

Economic impacts of the Location Incentive

BCARR estimates the incentive could generate over $4.3 billion in production expenditure in Australia spent by international film and television productions through to 2026–27. If the total $540 million funding for the incentive is allocated, the program will generate at least $4 billion in production expenditure in Australia by 2027.

The incentive has already attracted up to $1.57 billion in production expenditure in Australia to 2020–21 from the productions that have commenced activity in Australia. More than $1 billion of this production expenditure was realised in 2020–21. A further $2.79 billion could be attracted by the end of the program (Table 5).

IMAGES: Red carpet event. Getty Images; Filming Sydney Harbour Bridge. Getty Images.

Projected impacts over the life of the incentive should be treated with caution because the program is only a few years old and there is always a considerable delay between the start of a production and its completion.

Recipients only provide detailed information and reports at the end of a production. As a result, there is very little data to analyse.

BCARR has assumed that the incentive will be fully utilised during the program's life. This is a reasonable assumption because the 30 per cent assistance offered by the Location Offset and Location Incentive is internationally competitive.[15] For example, New Zealand offers up to 25 per cent, and the American states of New York and Georgia offer up to 25 per cent and 30 per cent, respectively.[16]

The total number of screen productions attracted to Australia by the incentive is estimated to range from 48 to 55 to 2027. Of these, 25 had been announced in 2020–21 and it is expected that a further 23 to 30 productions will commence after this.

Table 5. Projected impacts of the Location Incentive

Period of impacts	Estimated production expenditure in Australia ($m)	Estimated job opportunities	Estimated supported businesses
2018–19 to 2020–21	1,567	39,100	13,100
2021–22 to 2026–27	2,789	69,600	23,400
Total	4,357	108,800	36,600

Source: BCARR analysis of SmartyGrants data, as at 1 November 2021.

Jobs and businesses

The incentive has created over 39,000 jobs over the period from 2018–19 to 2020–21.[IV] Of these, an estimated 40 per cent or 27,800 are full-time equivalent. Around 23,500 of these jobs were created in 2020–21. By 2026–27, the incentive will create an estimated 108,800 jobs. Of these, an estimated 40 per cent are considered to be full-time equivalent, or approximately 43,500 people. Over 69,000 of all these jobs are expected to be created from 2021–22 onwards. Job numbers could range between 27,000 and 54,000 for cast and crew, and between 54,000 to 81,000 for paid extras.

By 2026–27, the incentive is expected to support over 36,000 businesses. The incentive has already supported more than 13,000 businesses during the period to 2020–21. These are Australian businesses used as service providers on the production. Over 23,000 of these businesses are expected to be supported from 2021–22 onwards.

The incentive is estimated to create **108,800 jobs** over the course of the program to 2026–27

Of these, an estimated **40%** are considered to be full-time equivalent

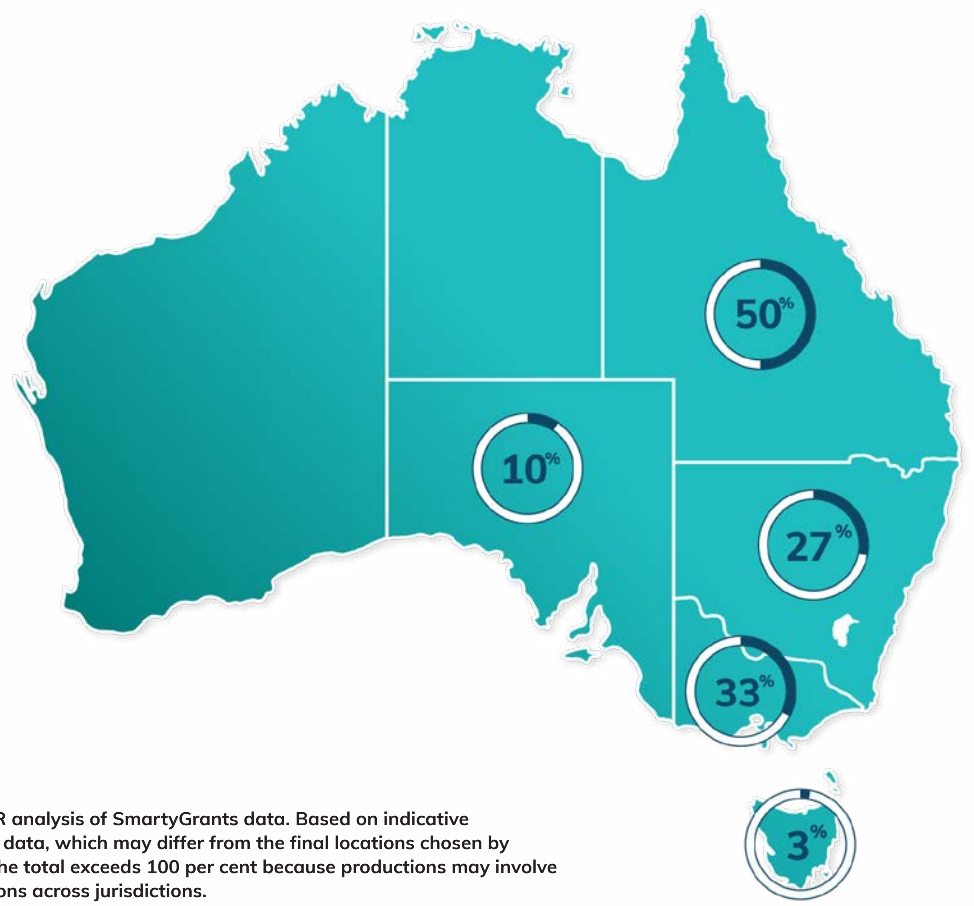
By 2026–27 the incentive is expected to support over **36,000 businesses**

IV A job opportunity can be for any length of time and is estimated at the time of application.

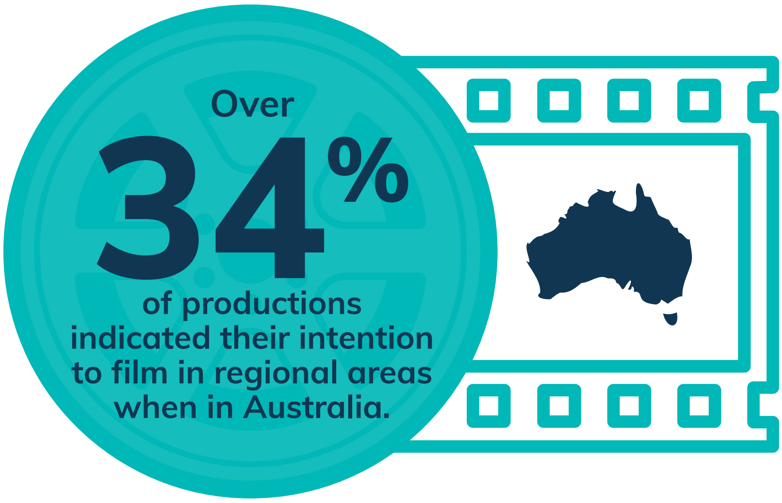
Regional impacts

Screen productions provide direct and indirect economic benefits to the regions where they are filming or the PDV work takes place. On a jurisdiction basis, the majority of productions supported by the incentive intend to operate across Australia's eastern states, particularly in Queensland (Figure 4).

Figure 4. States where productions intend to operate



Source: BCARR analysis of SmartyGrants data. Based on indicative administrative data, which may differ from the final locations chosen by productions. The total exceeds 100 per cent because productions may involve multiple locations across jurisdictions.



This benefits both the production companies and creates economic opportunities for those regions.

Anecdotal information from applicants indicates that regional areas in Australia provide unique benefits for productions. For example, regional towns offer the ability to lock down streets for action sequences with relatively minimal disruption compared to a metropolitan area. Productions also cite the benefits that remote areas of Australia offer for access to unique film locations, such as desert, forest and alpine landscapes. Attracting large-scale productions also brings spending into regional economies by production and film cast members, as well as providing investment opportunities for permanent PDV facilities.

As at November 2021, only five productions receiving the incentive have finalised their reporting. This is because productions need to submit their final reports in the financial year payments are made, and many payments will occur in future years due to the funding profile of the program. These productions have provided additional information on the regional distribution of the people they employed and the businesses they supported (Table 6). Almost all employment and supported businesses from completed productions were in New South Wales, Victoria or Queensland.

Table 6. Regional impacts from completed productions

State	Australian employment	Full-time equivalent employment	Australian businesses supported
New South Wales	585	219	575
Victoria	4,215	867	2,192
Queensland	4,269	1,019	1,905
South Australia	9	6	37
Western Australia	12	3	16
Tasmania	4	3	7
Northern Territory	1	1	4
Australian Capital Territory	2	2	2
Total	9,098	2,122	4,739

Source: BCARR analysis of completed productions assisted by the Location Incentive, as at 1 November 2021.

IMAGE: South Australia, Flinders Ranges. Getty Images

Sensitivity analysis

Incentive recipients generally underestimate the amount of production expenditure in Australia their productions actually spend in their applications. BCARR undertook sensitivity analysis to assess the potential range of benefits from the incentive if final expenditure by applicants exceeds the initial estimated production expenditure in Australia that their grant amount is calculated on.

Table 7 shows that the benefits of the incentive could range from $4 billion to over $5 billion. The number of job opportunities that could be created over the life of the program ranges from between 99,000 to 134,000, while 33,000 to 45,000 businesses are estimated to be supported by the program.

The analysis demonstrates that the estimated production expenditure in Australia, job opportunities and supported businesses are inversely related to the amount that productions receive as a proportion of their actual production expenditure in Australia. That is, if productions underestimate their production expenditure in Australia then they will receive less as a proportion of their actual production expenditure in Australia and so the impacts of the incentive could be higher.

Additionally, productions may not receive the maximum claimable amount of the grant if the Minister chooses to award a partial grant for the production.

Table 7. Sensitivity of projected impacts of the Location Incentive based on full usage of the grant funding

Case	Justification	Estimated production expenditure in Australia ($m)	Estimated job opportunities	Estimated supported businesses
Lower bound –applicants accurately estimate production expenditure in Australia	The maximum claimable amount under the program. If productions are more effective at estimating their production costs they will be able to receive closer to 13.5 per cent grants.	4,000	99,900	33,600
Current estimate – applicants underestimate production expenditure in Australia on average	Based on the average grant received as a proportion of final production expenditure in Australia for the 5 completed productions (12.4 per cent).	4,357	108,800	36,600
High case – applicants significantly underestimate production expenditure in Australia	Reflects a scenario where companies significantly underestimate production expenditure in Australia (10 per cent).	5,400	134,800	45,400

Source: BCARR analysis of SmartyGrants data, as at 1 November 2021. More information on sensitivity tests can be found in the appendix.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Other impacts of the Location Incentive

The incentive has had a significant impact on the screen sector through attracting direct expenditure, creating jobs and supporting businesses but there have been other economic and cultural benefits.

BCARR undertook a qualitative assessment of these to understand the other benefits of the incentive, such as the development of skills and capabilities by Australians working in the sector, other indirect benefits and the program's cultural impact. These are an important part of the incentive's objectives.

IMAGES: (left) Behind the scenes of AFTRS Master of Arts Screen capstone film, *This River*. The Australian Film Television and Radio School; (above) Models being filmed by a videographer. Getty Images

Developing a sustainable Australian screen sector

An objective of the incentive is to help develop Australia's screen sector and secure its future viability.[17] Australia has a reputation for possessing high-quality screen production talent and infrastructure.[18] This includes directing and producing, writing, music and sound, editing, design, production and cinematography.[19] Australian post-production, digital and visual effects businesses are also globally recognised.[20] A consistent pipeline of productions filming in Australia is required to maintain and grow these capabilities. Such consistency is now emerging with year-on-year growth in the spend from domestic and foreign productions in Australia (Figure 2).

A full assessment of the role of the incentive in growing the industry cannot be undertaken because the incentive has only been operating for a few years and due to the impacts of the COVID–19 pandemic. However, there is some evidence from productions applying for the incentive that the program is developing the screen industry. Applicants for the incentive cite the following as likely benefits resulting from the grant:

- **Direct capital investment.** The incentive encourages direct capital investment in Australian production studios through upgrades to existing facilities, or through investment in new technology and visual effects (such as volumetric film stages). A consistent pipeline of film and television productions also encourages the establishment of permanent offices for large-scale production studios in Australia (such as Docklands Studios Melbourne).
- **Engaging local talent.** International productions funded by the incentive employ significant numbers of Australian cast and crew. This helps to develop the domestic workforce through providing direct employment opportunities as well as longer-term benefits, such as exposure to the wider industry and contacts for future productions.
- **Garnering a global audience for Australian industry.** Productions funded by the incentive offer an opportunity for Australian partners to collaborate with global production studios, and allows for repeat business based on these partnerships. For example, in connection with the filming of La Brea, NBCUniversal has partnered with the Australian Film Television and Radio School (AFTRS) to develop a curriculum dedicated to virtual production.

The incentive and other complementary Government assistance, such as the Location Offset, will attract more production to guarantee ongoing opportunities and employment. The longevity and stability of the funding of the incentive, $540 million across eight years, provides certainty for production companies and attracts a constant flow of eligible productions.[21] In contrast, the lack of competitive financial incentives and the ad-hoc nature of previous top-up funding presented a challenge to those wishing to use Australia's locations and facilities.[22]

Box 2: Lessons from the Producer Offset

The Producer Offset, introduced in 2007, is a comparable scheme that has supported the production of domestic Australian screen feature film, television and online content.[V] The Producer Offset is intended to assist the industry to be more competitive, provide opportunities for producers to retain equity in their productions, encourage Australian talent to return home to work on Australian projects, and attract private and foreign investment.[23]

In 2017, Screen Australia released a report that collated findings from a survey of production companies on the outcomes of the Producer Offset ten years after its introduction.[24] Of the respondents, 87 per cent indicated that the Producer Offset had contributed to them being able to produce content consistently.[VI]

As an indicator of production activity, total production budgets have also increased since the introduction of the Producer Offset. Average budgets between 2012–13 and 2016–17 increased 94 per cent for documentaries, 93 per cent for feature drama films and 89 per cent for drama television/streaming services content compared to those between 2002–03 and 2006–07.

More than two thirds of respondents (71 per cent) also reported that the Producer Offset helped them build relationships with international broadcasters, production companies and/or studios. They found their contacts are now very familiar with the offset and that it opens the door to further financial opportunities. All these indicators point to consistent development in the sector that has allowed production companies to spread costs across multiple projects and retain staff to develop further projects.

V The Producer Offset offers a 40 per cent rebate on qualifying production expenditure in Australia of Australian films released theatrically and a 30 per cent rebate for other eligible formats, where the applicable minimum production expenditure is met as well as meeting other eligibility and content requirements.

VI The online survey was distributed to 133 production companies with 81 respondents from across feature films, documentaries and television/streaming services.

Development of skills for Australian workers

The incentive requires applicants to demonstrate a commitment to providing training and skills development. All five completed incentive productions had positions targeted towards trainees, interns and attachments. Figure 5 shows some of the opportunities for skills development provided to Australian workers by productions approved to receive the incentive.

Professional attachments are job opportunities in the film industry associated with productions. Research on New Zealand's screen sector found that on the job training is important to develop skills in the screen industry.[25] Many applicants for the incentive focused on providing opportunities for film and production workers just starting their careers. Productions offering attachment positions may also work in tandem with state-based initiatives, such as the Professional and Indigenous attachment programs, run through Screen Queensland or Film Victoria. These often have a focus on **diversity and inclusion**. For example, productions supported by the incentive have cited affirmative measures targeted towards hiring female and/or Indigenous cast and crew. There is also a focus on **engaging local talent**, and consistently filming in established Australian production facilities (such as Village Roadshow studios) can act as an incubator for established and emerging local talent.

Production companies supported by the incentive have expressed a desire to develop local talent in the screen production sector, particularly in roles where there are **skill shortages**.

A Screen Producers Australia (SPA) survey found that particular skills that are in shortage for the industry include **line producers, production accountants, art directors, camera operators, gaffers, grips, directors of photography and visual effects (VFX) artists**.[26]

This is supported by findings from the Production Infrastructure and Capacity Audit (PICA) commissioned by Ausfilm that also found capacity problems in similar roles as well as in other specialist roles such as **first assistant director, prosthetics and location manager, amongst others**.[27]

Skills are developed through providing trainee employment opportunities through institutions such as the Griffith University Film School and Queensland University of Technology. Such initiatives often work with state-based programs such as the Key Talents Program run by Film Victoria.

Figure 5. Skill development opportunities supported by the Location Incentive

Other skills related benefits provided by the incentive include **internships, purpose-made data sharing agreements, and masterclasses**. Internships for several productions are helping young and emerging talent develop in Australia's screen sector. Purpose-made data sharing agreements between production companies (such as American Broadcasting Company Studios International) and government will track the skills development of crew working on all productions securing incentive funding. Finally, the productions receiving the incentive have offered masterclasses with renowned international cast and crew. These offer the opportunity for the transfer of skills from the global film industry to Australia. To date, multiple productions have provided masterclasses, including Netflix's *Escape from Spiderhead* in collaboration with AFTRS. More productions also intend to provide masterclasses in collaboration with universities and other institutions.

One issue is that the incentive is a relatively recent initiative with a limited number of completed productions through which to examine the development of skills in the screen production sector. However, it is possible to compare the incentive to similar long-standing domestic programs as well as draw conclusions from other international incentive schemes. For example, the incentive is increasingly likely to support **specialised PDV production work**. Existing programs, such as the Location Offset and the PDV Offset, have helped create a highly skilled PDV workforce in Australia. *Thor: Ragnarok* used a number of Australian VFX companies, including Method Studios, Luma, and Rising Sun Pictures, to undertake PDV work in Adelaide, Melbourne, and Sydney.[28] It is likely that the incentive will build on the work of the Location Offset and the PDV Offset by affording more job opportunities for specialised work as part of new productions.

Other facilities, such as the French entertainment company MPC have also **invested in a new Australian VFX facility in Adelaide**.[29]

Australian crew are highly regarded by US studios and often working around the world with major US projects. Anecdotal evidence suggests there is a wide degree of crossover between those working on these international projects and the crews of large budget domestic shoots.[30]

There is also the potential for productions to make use of **general skills of the Australian workforce, particularly in regional areas**. Evidence from New Zealand suggests that there are a broad range of skills required for both film and television production work that isn't necessarily specialised.[31]

This supports the findings of the SPA and PICA studies that showed that of the major skills in need, many include general skills such as **accounting**.[32] Findings from New Zealand suggest that while some workers including crew and VFX contractors have specialised skills, a large number require general skills, such as **building and construction**. Furthermore, due to labour mobility, the skills learned while working on the productions will then spread back through the wider economy.

Box 3: Training case study

The Marvel Studios productions, *Shang-Chi and the Legend of the Ten Rings* and *Thor: Love and Thunder*, were shot in Australia at Fox Studios in 2020.

In connection with these productions, Marvel Studios ran a trainee program for students and graduates from AFTRS, the National Institute of Dramatic Art (NIDA) and other tertiary institutions. The program was designed to provide opportunities for local practitioners to gain skills and experience and make international connections through working on these productions.

The AFTRS Annual Report[33] outlines that in 2020–21, Marvel Studios offered eight paid traineeships and 110 students accessed industry opportunities, including internships, placements, paid positions, and workshops.

IMAGE: Behind the scenes of an AFTRS Open Day exercise with Bachelor of Arts: Screen Production students. Image supplied by AFTRS.

Indirect benefits

Indirect benefits to the wider economy are created by the incentive because production companies often use suppliers and services from outside the screen production industry. The calculation of indirect benefits is problematic, but it can be a significant source of additional benefits from a program.[34] These indirect benefits could be significant because once a production is filming in Australia, the costs of importing goods and services can be prohibitive. This means that a production will tend to source services locally.[35] This can encourage investment as well as the use of local Australian production crews.

Screen production is also a source of demand for domestic and international tourism. This could be due to location tourism, where tourism is connected with the screen content, or destination tourism where tourism is driven by the broader features of the destination itself.[36] Of the international tourists that recall seeing an Australian film or television show before their visit, 85 per cent said the content made them more likely to visit Australia. In fact, of the key reasons for a visit to Australia, 7 per cent were here to visit a location they saw in an Australian film or television programme.[37]

Cultural impacts

The broader Australian Screen Production Incentives and in particular the Producer Offset aims to support Australian culture by providing a 40 per cent rebate for Australian theatrical film releases and a 30 per cent offset for other Australian productions.[38] Only productions that can demonstrate that they will include significant Australian content are eligible to receive these offsets.[39] This requirement results in screen content that represents or contributes to the Australian cultural environment – that is, its arts, history, people, beliefs and traditions.[40]

The incentive can increase screen production activity in Australia and provide sustainability to the sector. Attracting large international productions creates a more sustainable industry that can produce Australian content and support more Australian employees. The skills that these employees develop in the industry then flow into other creative industries through labour mobility.

The incentive focuses on attracting large budget international productions and so the direct cultural benefits are more limited. However, by attracting these productions to Australia, and using Australian cast and crew, there are opportunities to increase the exposure of Australian culture to a global audience. This can provide a great platform to showcase Australian landscapes and talent.[41]

IMAGES: (top) Clickbait. Image by Ben King. Courtesy of NBCU/Matchbox Pictures; (above) Make-up artist at work. Getty Images

Assessment of program success

IMAGES: (left) La Brea. Image by Sarah Enticknap. Courtesy of NBCU/Matchbox Pictures; (above) Filming on set of Godzilla vs Kong. Image supplied by Legendary Entertainment.

A comprehensive assessment of the program's success to date is not yet feasible as there have only been five completed productions under the incentive.

This significantly limits the ability to estimate the economic impacts of the incentive through production expenditure in Australia, jobs and businesses supported. This is compounded by the delay between when production activity occurs and when it is accurately recorded.

Data from the completed productions and the projections of further impacts over the life of the program indicate that the incentive will boost activity in the screen production sector. However, an assessment of the program's success should assess these benefits against both the program's objectives and the costs of the program. This paper has discussed various aspects of how the impacts of the program compare to its objectives. Table 8 shows that the incentive performs, or is expected to perform, strongly against its stated program objectives.

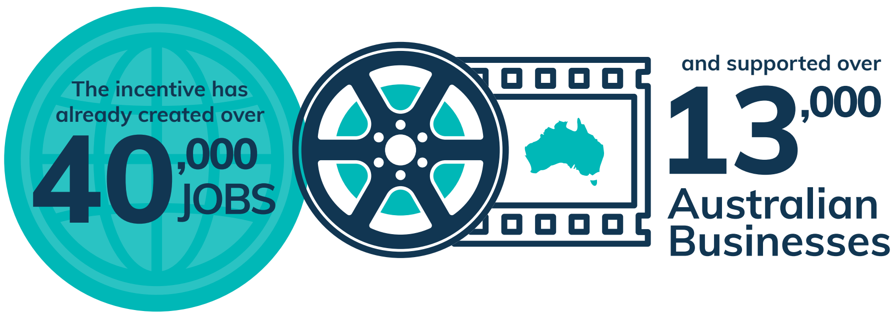
While Table 8 shows that performance against the incentive's objectives is favourable, not all of this is directly attributable to the program. For example, Box 1 highlights the various driving factors behind a production company's decision to produce a film or television program in a jurisdiction including costs, such as wages and rental costs, as well as government incentives. Additionally the impacts of the COVID–19 pandemic may have made Australia a more attractive country to produce in due to the country's performance in managing the pandemic.

Table 8. Assessment of performance against the program objectives

Objective	Performance
Attracting more international film and television productions	The number of foreign productions has increased by 90 per cent between 2016–17 and 2020–21 compared to the previous five years. Foreign production spending in Australia has increased by 130 per cent over the same period.* In contrast, the number of Australian productions rose by 23 per cent while spending in Australia has increased by 18 per cent. Spend in Australia by foreign shoot titles reached $793 million in 2020–21, nearly double the five year average. Of the ten foreign shoot dramas that commenced work in 2020–21, nine were announced as receiving the Location Incentive.[#]
Creating more opportunities for Australian cast, crew, post-production companies and other service providers	The incentive has already created over 40,000 jobs and supported over 13,000 Australian businesses. Over the program's duration, it is estimated that there could be more than 100,000 jobs created including 41,000 full-time equivalent positions and an estimated 35,000 Australian businesses supported.
Develop the Australian screen production industry's capabilities and help ensure its future viability	The incentive is expected to generate an estimated $4.36 billion in production expenditure in Australia by 2027. The program is expected to have an impact on investment in infrastructure and/or new technology. In addition to the jobs created, productions have committed to provide training and skills development such as professional attachments, internships and masterclasses.

Source: BCARR analysis of Screen Australia data and SmartyGrants data. While these performance outcomes are expected to be achieved, they cannot be solely attributed to the Location Incentive. * Data includes Australian, foreign shoot and foreign PDV-only productions. [#]Screen Australia Drama Report 2020/21, p. 29.

It would be appropriate to evaluate the incentive once more data is available. This would help to confirm the observed trend of production expenditure in Australia under the incentive often being higher than expected when applications are made, and to better understand the broader cultural, skills and indirect benefits. This information will assist policymaking to support the valuable screen production into the future.



Estimating the economic impacts of the Location Incentive

BCARR has used information from incentive grant applications to undertake this analysis as well as information provided through the final reports of completed productions to estimate the economic impacts of the grant.

The first part of the analysis generates estimates of the realised economic impacts on Australian jobs, businesses and production expenditure in Australia to 2020–21 from the incentive. This was done by apportioning production activity over the duration of a production and assumes that activity is evenly spread throughout the production life cycle. While this is unlikely to be true for all productions, this assumption was made to overcome data limitations.

The second part of the analysis projected the economic impacts using the remaining grant funding to estimate future production expenditure in Australia. BCARR has also sensitivity tested different Location Incentive grant rates to provide a range for future economic impacts. Estimates of the realised production expenditure in Australia, job opportunities and supported businesses up to 2020–21 and projected figures of production expenditure in Australia, job opportunities and supported businesses were combined to provide an estimate of the overall impact of the Location Incentive.

Estimating the economic impacts to 2020–21

To estimate the production expenditure in Australia, jobs and businesses supported by the incentive, the analysis first estimated how much production expenditure in Australia had been spent to 2020–21. In most cases, productions are spread across multiple financial years and therefore the economic impacts are also spread across multiple financial years. The duration of a production was estimated by finding the number of days between the commencement and the completion of production expenditure in Australia.[VII] Production activity was allocated to a financial year based on the number of production days that occurred in each financial year.

This methodology assumes that film and television productions are made uniformly and that all parts of the production process are equally as financially intensive, regardless of the type of production. For example, if a production with a duration of two years commences on 1 July of a particular year, it is assumed that half of all the production expenditure in Australia, job opportunities and businesses will be used in that first year and half in the second year. In reality, this even split is not likely accurate with the different parts of the production process requiring a different mix of expenditure and labour. [42] Without further information, Australian job opportunities and supported businesses were also apportioned evenly based on the number of days spent in production in each financial year.

Estimated production expenditure in Australia through to 2020–21 was $1.57 billion (Table 5). Based on this, an indicative amount of grant funding that has been expended can be calculated by multiplying production expenditure in Australia (see formula below) by the rate of the grant. As per the program, this is expected to be up to 13.5 per cent. However, based on the five finalised productions the average grant rate was 12.4 per cent of total production expenditure in Australia because some productions had initially underestimated their production expenditure in Australia, resulting in a lower grant rate upon production completion. Over the period to 2020–21, $194 million of the $540 million had been expended, leaving $346 million for future years.

Production expenditure in Australia × grant rate
= Grant amount

Projected economic activity

The second half of the analysis projects future economic impacts using the remaining grant funding amount and by rearranging the formula above. The formula now becomes:

Grant amount remaining ÷ grant rate
= Projected production expenditure in Australia

Using the remaining grant funding and the average grant rate of 12.4 per cent, the estimated production expenditure in Australia is $2.79 billion for the projected period 2021–22 to 2026–27. In total, when combined with estimates for the period to 2020–21, $4.36 billion is estimated to be spent in Australia over the duration of the Location Incentive program as shown in Table 5.

VII Not all applications provided a production expenditure completion date. For those applications that did not, the date of final completion of production was used.

Australian job opportunities and supported businesses

Australian jobs and businesses supported by the incentive were also estimated using the apportionment to financial years by production duration. Estimates of jobs and businesses supported are likely to be less accurate than production expenditure in Australia because applicants have less incentive to accurately forecast these attributes and less knowledge of exactly how they will resource productions. It is also unclear from the application the proposed length of time of the job or whether this is on a full-time or part-time basis. Information from the five completed applications shows that the estimates for jobs were around 30 per cent lower than they actually achieved and supported businesses were at least 60 per cent lower.

The amount of jobs and businesses supported was estimated based on the application data and final reports where possible up to 2020–21. This estimate was then used as a basis to project the amount of jobs and businesses supported for future years. This was done by using ratios of production expenditure in Australia per job and production expenditure in Australia per business supported to 2020–21. The projections use these ratios with projected production expenditure in Australia for the remainder of the program to estimate jobs and businesses supported beyond 2020–2021.

Sensitivity analysis

As per the incentive grant guidelines, a grant amount of up to 13.5 per cent of a production's expenditure in Australia may be awarded. This represents the maximum grant amount a production can receive. However, as previously mentioned, only five productions have been finalised through to November 2021. This is because productions need to submit their final reports in the financial year payments are made, and many payments will occur in future years due to the funding profile of the program. Using this limited sample size of finalised productions, the analysis finds that an average grant of 12.4 per cent has been provided.

BCARR has undertaken sensitivity analysis to assess the economic impacts of different grant rates over the duration of the program. The sensitivity analysis is useful because it is too early to confidently estimate the amount of production expenditure in Australia that could be generated from the Location Incentive. It is possible that, over time, production companies may get better at estimating their production expenditure in Australia. This would cause the overall impacts of the program to be lower because higher grant amounts will be approved for each individual applicant. In contrast, if production companies' ability to forecast production expenditure in Australia accurately deteriorates or if production companies are provided partial grants that, if they still choose to produce in Australia, will result in more productions being able to use the program and increase production expenditure in Australia generated by the incentive.

The tests that were used in the analysis as shown in Table 7 are:

- **Lower bound (all productions receive a grant of 13.5 per cent of production expenditure in Australia):** This tests shows the impacts if all productions were to receive the maximum grant amount of 13.5 per cent of production expenditure in Australia. This would represent the lowest amount of impact that would be incurred from the program if the grant is fully taken up.
- **Current estimate (average grant receipt of 12.4 per cent of production expenditure in Australia):** This test is the base case and represents the grant rate that has actually been awarded to the five finalised productions. This is the most appropriate estimate based on the available data to date.
- **High case (grant receipt of 10 per cent of production expenditure in Australia):** This sensitivity tests shows the impacts of a lower average grant rate. This may reflect a situation where companies more significantly underestimate production expenditure in Australia or there are production companies that only receive partial grants and as a result there are more productions that receive funding through the incentive. This may also represent an upper bound because at this level the effective rebate when combined with the Location Offset is only 25 per cent at which point the financial assistance may not be competitive enough to attract large budget international productions.

Limitations to the analysis

- It is not possible to separate out the economic impacts of the incentive from the Location Offset as the two programs are usually combined to provide productions with total Commonwealth assistance of up to 30 per cent.
- The low number of productions causes high variance in production data, which makes it difficult to make estimates of current trends and predictions of future production expenditure in Australia. The combination of the delay to receipt of actual data as well as the relatively recent introduction of the incentive result in very few data points to analyse.
- While the production company provides estimates as part of the application process, these can be inaccurate. There may also an incentive to overestimate these to make the application more appealing, though this has not been observed in the five acquitted productions. Furthermore, while the grant amount is based on actual production expenditure in Australia, there is still an incentive to overestimate production expenditure as part of the application to ensure that the maximum (13.5 per cent) grant amount is received.
- Production expenditure in Australia, supported businesses and jobs are assumed to occur evenly throughout the lifespan of a production. This was done in order to assign production expenditure in Australia to financial years. In reality, expenditure throughout a project may be variable, and largely concentrated in the pre-production and principal photography stages.
- Screen Australia data on production spending in Australia is not comparable with production expenditure in Australia. This is due to two main differences in the estimation of production spend. BCARR has apportioned production spend to financial years based on duration, while Screen Australia data attributes spend to the year in which principal photography commences for Australian and foreign shoot titles, and the year PDV work commences for foreign PDV-only titles. Additionally, Screen Australia data includes titles that have not received the incentive and also includes foreign PDV-only titles.
- A time series of production expenditure in Australia from the incentive cannot be estimated due to differences between production expenditure in Australia and Screen Australia data. Due to the volatility of production spending in Australia and the impacts of the COVID–19 pandemic, a detailed time series analysis of the potential impacts of the incentive may be possible once production data is available from 2021–22 onwards.
- The analysis is sensitive to the production expenditure in Australia commencement and completion dates that may be subject to revision and could be less correlated to production activity if there are extensions for unexpected reasons.

IMAGE: Friends watching a movie on a building rooftop terrace. Getty Images

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