



THE ECONOMIC CONTRIBUTION OF THE FILM AND TV INDUSTRIES IN THAILAND IN 2015



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1. KEY FINDINGS

Thailand's film and television industry made a substantial contribution to the domestic economy in 2015...

Thailand's film and TV industry made a direct contribution to Gross Domestic Product (GDP) of 60.3 billion Baht in 2015, equivalent to more than 0.4 percent of national GDP.¹

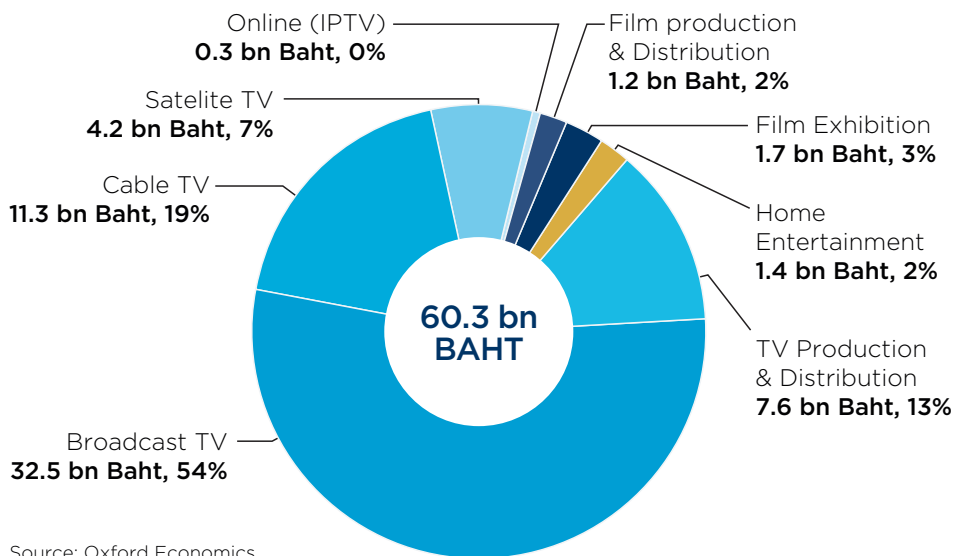
Broadcast TV was responsible for a slim majority (32.5 billion Baht) of the industry's direct GDP (Fig. 1).² Further notable contributions were delivered by cable TV (11.3 billion Baht), and TV production and distribution (7.6 billion Baht). The remainder of the TV industry (including satellite and online TV) totalled 4.5 billion Baht.

The contribution of the film industry, split between the production and distribution of films, the exhibition of films and physical home media (primarily DVD sales), amounts to 4.3 billion Baht.

...sustaining a significant number of highly productive jobs...

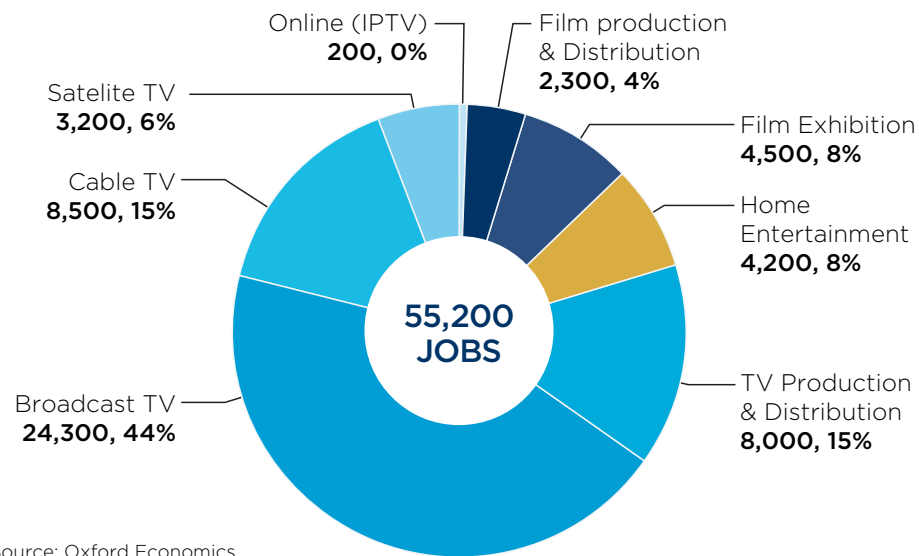
The Thai film and TV industry as a whole directly supported 55,200 jobs in 2015 (Fig. 2).¹

Fig. 1: Direct contributions to GDP of different components of the film and TV industry in 2015 (billions of Baht and percentage split)



Source: Oxford Economics

Fig. 2: Direct employment of components of the film and TV industry in 2015 (persons employed and percentage split)



Source: Oxford Economics

¹ Throughout this report measures of GDP reflect GDP at 'basic prices' (also known as Gross Value Added, or GVA), rather than the 'market price' measure usually given 'headline' status in official statistics. Also note that throughout this report Gross Output, GDP, Tax and Employment figures cited in charts, tables and text may not exactly sum to totals due to rounding. Further, job figures have been rounded to the nearest hundred in this report
² "Broadcast TV" refers to free-to-air terrestrial TV

Broadcast television was again the dominant sub-sector, employing 24,300 people. The film industry as a whole was responsible for generating 11,000 jobs, 20 percent of the wider industry's total.

The film and TV industry's share of total national GDP (0.4 percent) was noticeably higher than its share of employment (0.1 percent). This pattern highlights the relatively high productivity of people working in the industry as a whole. The average contribution to GDP per worker was

worth 1.1 million Baht in 2015, three times the average across the Thai economy as a whole. Broadcast TV, responsible for more than half of the sector's output, was a major driver of this productivity, with its output totalling more than 1.3 million Baht per worker.

The direct employment generated by the film and TV industries is comparable to other major industries (Fig. 3). It is close to the total employment generated by sport, amusement and recreational

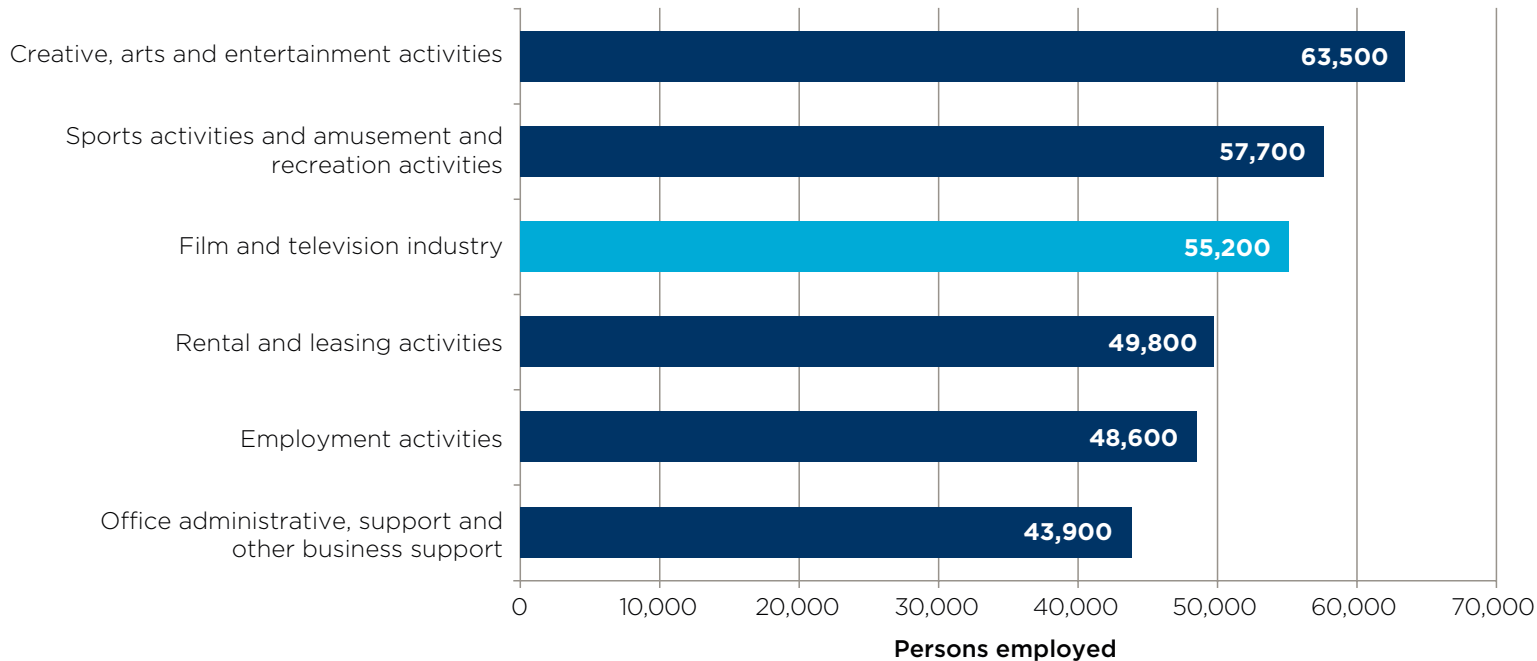
activities (including all of arts, music, museums, and sports) and it is larger than key business service areas such as rental and leasing activities (including the rental of vehicles, household items and other machinery).

...and significant tax revenues generated.

Through this economic activity, the Thai film and television industry also makes a large contribution to domestic tax revenues, supported

in part by the licence fees paid by television broadcasters. In total, the direct impact on tax is estimated to have been worth 18.8 billion Baht or 0.8 percent of the total domestic tax revenues in 2015. This is significantly higher than the industry's direct share of national GDP, reflecting the sector's above-average payments relative to its activities.

Fig. 3: Direct employment of Thai film and TV industry in 2015 relative to selected other industries



Source: Oxford Economics

Figures have been rounded

The total economic footprint of the Thai film and TV industry was equal to 132 billion Baht in 2015.

The role of the film and TV industry in the Thai economy extends beyond the direct activities of the organisations working in the industry. Accordingly, our analysis also examines how the industry’s supply chain (indirect impacts), and employee spending (induced impacts) influence the economy as a whole.

Through its supply chain, the industry made an indirect contribution to Thai GDP of 32.0 billion Baht. Together with an additional 39.3 billion Baht in employee spending (by the industry and its supply chain) and adding in the direct economic contribution of 60.3 billion Baht, this means that the film and TV industry’s total economic contribution was worth 131.6 billion Baht.

This economic activity generates significant additional employment, with the industry supporting 115,400 jobs through indirect impacts and 159,400 through induced impacts. The employment supported across all activities totals 330,000. A relatively limited amount of this employment is supported directly, highlighting how much more labour intensive, on average, businesses working along the supply chain and in consumer-facing industries are.

In addition to this, these impacts produce a total of 33.3 billion Baht in tax revenues, of which 6.3 billion is generated through the supply chain and a further 8.2 billion through the induced contribution.

The way in which the different layers of impact generate this impact are illustrated in Fig. 4. A more detailed breakdown of these outputs by type of activity is revealed in Fig. 5.

Fig. 4: Contributions of the Thai film and TV industry to GDP, tax and employment, 2015

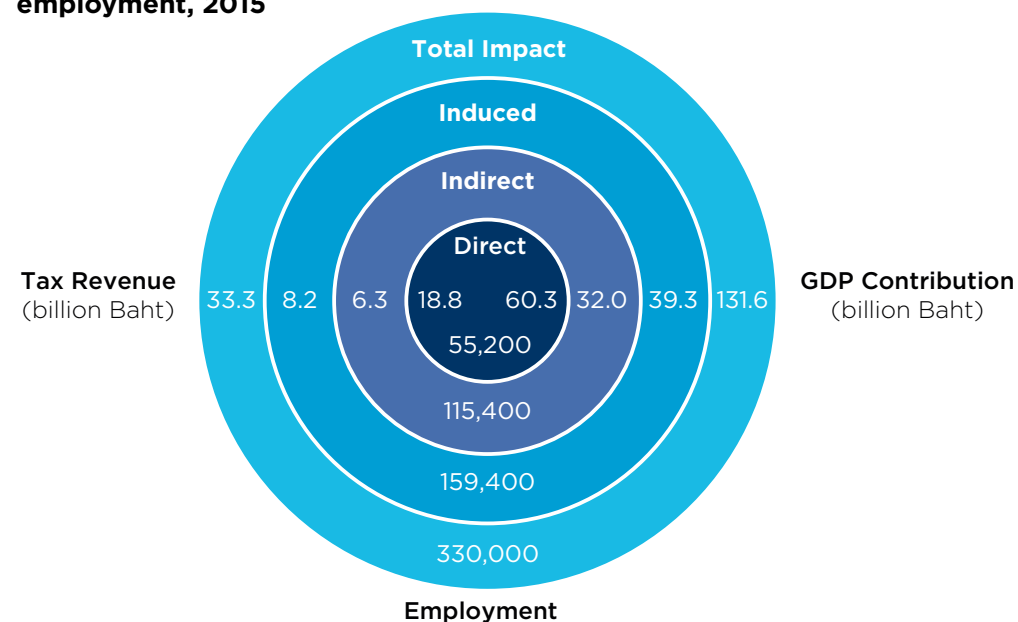


Fig. 5: Economic contributions of Thai film and TV industry, by activity in 2015

Sub-Sector	Gross Output (bns Baht)		GDP (bns Baht)		Tax (bns Baht)		Employment (Headcount)	
	Direct	Total	Direct	Total	Direct	Total	Direct	Total
Film Production & Distribution	3.1	8.5	1.2	3.4	0.3	0.8	2,300	13,800
Film Exhibition	6.4	12.9	1.7	4.3	0.5	1.0	4,500	12,000
Home Entertainment	1.6	2.7	1.4	1.8	0.4	0.5	4,200	5,600
TV Production & Distribution	26.6	72.8	7.6	26.6	2.0	6.1	8,000	113,000
Broadcast TV	77.6	166.4	32.5	64.1	10.5	16.8	24,300	124,500
Cable TV	27.1	58.0	11.3	22.4	3.7	5.9	8,500	43,400
Satellite TV	10.1	21.8	4.2	8.4	1.4	2.2	3,200	16,300
Online (IPTV)	0.8	1.6	0.3	0.6	0.1	0.1	200	1,200
Total	153.2	344.8	60.3	131.6	18.8	33.3	55,200	330,000

Numbers may not sum to totals due to rounding

HOW WE ARRIVED AT THESE RESULTS

This report was produced by Oxford Economics and commissioned by the Motion Picture Association of America (MPAA). The intention of this project was to identify the size of the film and TV industry in Thailand and the economic contribution that it makes. This section summarises the methodology. A full description of this approach and the sources used are included in the Appendix.

DIRECT ECONOMIC CONTRIBUTIONS

The starting point for this analysis involved establishing the size of the different components of the market.

For the film and TV production industries this was done utilising data from the Business Trade and Services Survey results for 2013, from the National Statistics Office of Thailand. This identified the size of all components of the industry. The TV transmission industry was analysed using a Daxis report, which outlined sector revenues. Finally, home entertainment was analysed based on data from a PwC report.

Adjustments to these results were required to make forecasts for 2015, utilising official macroeconomic data accessed through the Oxford Economics databank and data on changes to the sector provided by MPAA.

The Business Trade and Services Survey was again used to identify the contributions to GDP made in each sub-sector, as well as the employment that this activity supported.

ECONOMIC IMPACT

The economic impact model utilised a Thai Input-Output (I-O) table.

This allowed for an analysis of the purchases that firms made through their supply chains and the consumption of individuals employed either directly in the sector or through their supply chains.

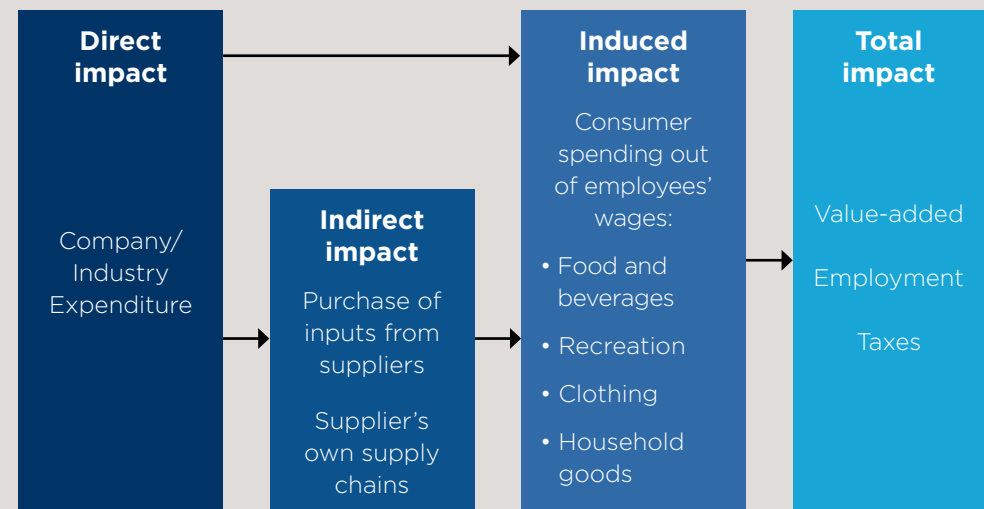
Estimates for total output of each industry were generated from this data. GDP was estimated based on analysis of the I-O table, with employment derived using the relationship between GDP and

employment, provided by the National Statistics Office and Central Bank. The relationship between the direct, indirect and induced effects is illustrated in the figure below.

The tax contributions made were analysed based on the effective tax rates charged on employee earnings, corporate profits, consumption and imports. These estimates used data on tax and

economic statistics from the National Statistics Office. The additional license fees charged in TV transmission were also included based on evidence taken from a range of sources, detailed in the Appendix.

The economic impact framework



2. FILM INDUSTRY

The film industry includes the production, post-production, distribution and exhibition of films (including physical product home entertainment). Together these components allow it to have a notable impact on the domestic economy. This section of the report considers the economic contribution of the industry as a whole, as well as analysing the individual components separately.

2.1 COMPOSITION OF THE FILM INDUSTRY

The main component of the sector is the exhibition of films, with a direct contribution to GDP worth 1.7 billion Baht in 2015 (Fig. 6). This represented two fifths of the economic footprint of the whole film industry. Through this activity, film exhibition supports a direct employment totalling 4,500 jobs, two fifths of the Thai film sector's total.

Film production supported a further 1.1 billion Baht of GDP, 26 percent of the film industry's total. A total of 2,100 jobs were created through this activity.³ Post-production and distribution are less significant

contributors to the film production process, collectively adding a total of 81 million Baht to GDP and generating 170 jobs.

Home entertainment sales contribute an additional 1.4 billion Baht to GDP, nearly a third of the total. In addition it adds 0.5 billion Baht in tax and has a direct employment of 4,200.

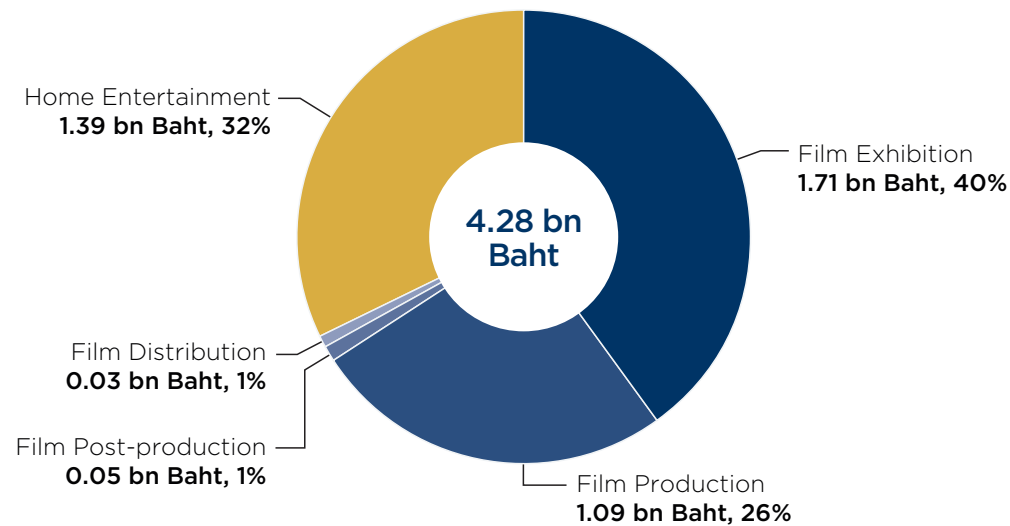
2.2 ECONOMIC IMPACT

In addition to these direct impacts, the supply chain that this activity relied on provided an indirect impact on GDP worth 3.2 billion Baht in 2015. Combined with an induced contribution worth 2.0 billion Baht, this means that the film industry added 9.5 billion Baht to Thailand's GDP.

A significant amount of employment was generated as a consequence, with 12,400 jobs generated indirectly and a further 8,000 generated through induced effects. The total employment supported by the film industry was measured at 31,300.

A total of 2.2 billion Baht of tax revenues were supported, driven primarily by the direct impact of the film industry, which accounted for 1.1 billion Baht of this total.

Fig. 6: Direct contribution to GDP of the film industry (billions of Baht)

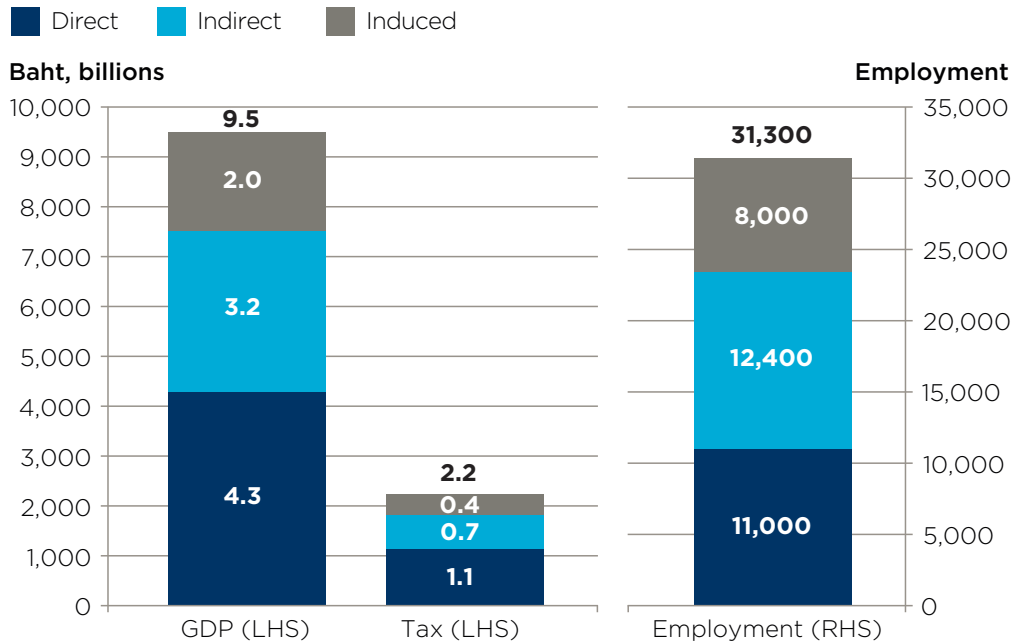


Source: Oxford Economics

Numbers may not sum to total due to rounding

³ Here to show the granularity we have separated production, post-production and distribution of film, however much of the rest of the report considers them together.

Fig. 7: Economic contribution of the film industry



Source: Oxford Economics

Numbers may not sum to totals due to rounding

2.3 PRODUCTIVITY

In 2015 the Thai film industry’s productivity was above the national average. The average worker employed in the sector made a direct contribution to GDP worth 427,000 Baht, 20% higher than the economy-wide average. (This contribution was highest in film production, where it was worth 518,000 Baht.)

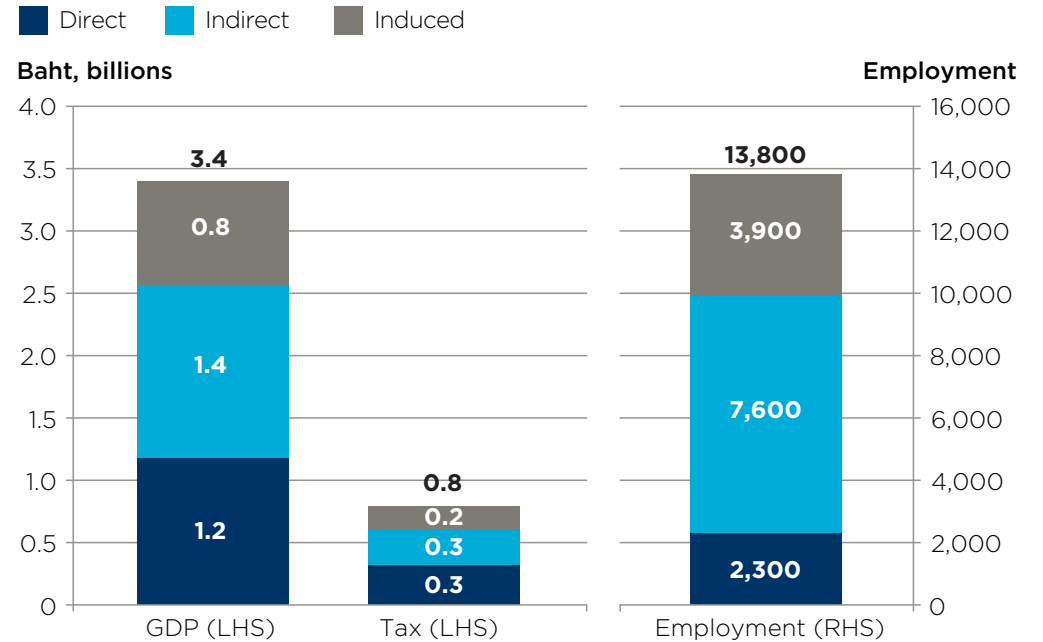
By achieving these relatively high levels of productivity, the film industry is able to generate large incomes for its employees and contribute significant amounts in tax. Supporting jobs such as these helps to boost living standards and, through its substantial tax contribution, it assists the government in providing public services.

2.4 FILM PRODUCTION AND DISTRIBUTION

The production and distribution of films in Thailand includes all activities involved in the process of making a film, including both production and post-production, as well as the dissemination of that film content.

Through these activities, a total contribution to GDP of 3.4 billion Baht was generated in 2015 (Fig. 8). This supported a total of 13,800 jobs and a tax contribution of 0.8 billion Baht.

Fig. 8: Economic contribution of film production and distribution



Source: Oxford Economics

Numbers may not sum to totals due to rounding

2.5 FILM EXHIBITION

The exhibition of films concerns the projection of films in cinemas and movie theatres. In 2015 this part of the industry accounted for the largest single segment of the film industry's contribution to GDP.

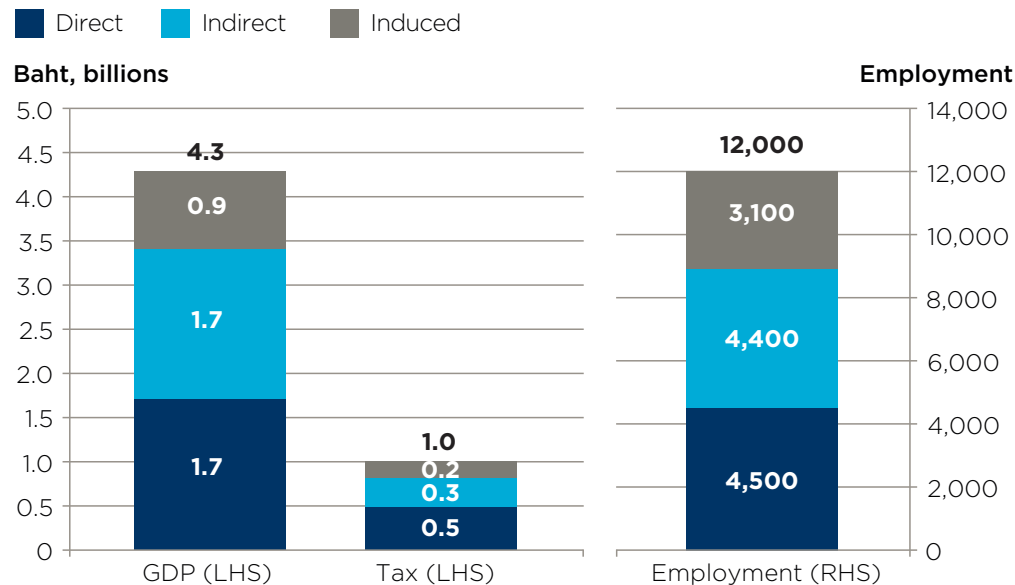
This activity is responsible for a total contribution to GDP of 4.3 billion Baht, supporting 12,000 jobs and generating 1.0 billion Baht in government revenue (Fig. 9).

2.6 HOME ENTERTAINMENT (PHYSICAL)

The final component of the sector reflects the physical consumption of film media in the homes of consumers, primarily through DVD purchases and rentals. This form of activity has fallen substantially in recent years as consumption patterns change and consumers turn to digital products, with one report estimating annual contraction of 4.2%. Nonetheless, it is still substantial enough to include as an individual component of the sector.⁴

Home entertainment made a direct contribution to GDP worth 1.4 billion Baht, with a total impact of 1.8 billion Baht (Fig. 10). This supported a total of nearly 0.5 billion Baht of tax revenues and 5,600 jobs.

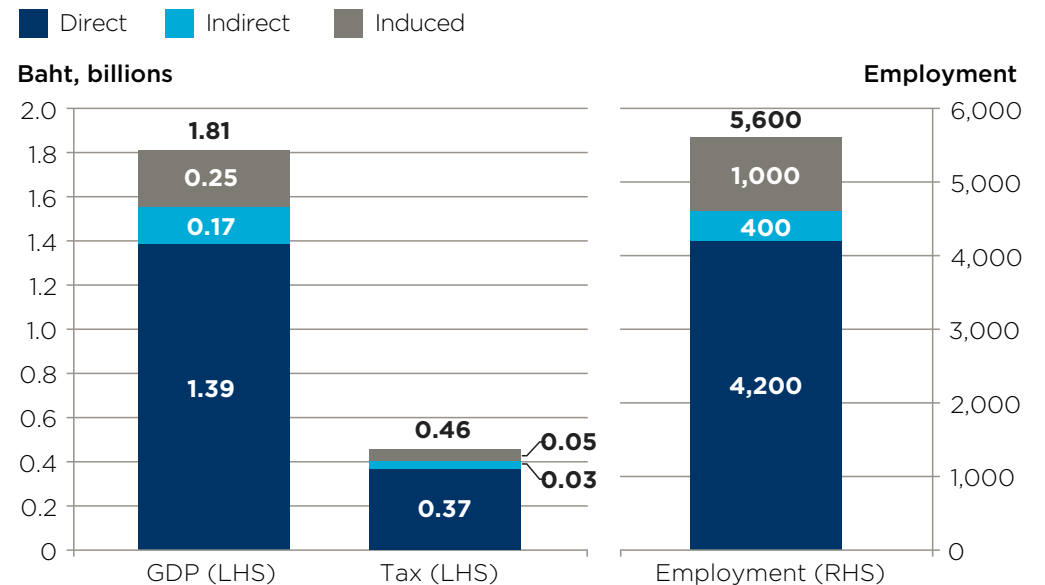
Fig. 9: Economic contribution of film exhibition



Source: Oxford Economics

Numbers may not sum to totals due to rounding

Fig. 10: Economic contribution of home entertainment



Source: Oxford Economics

Numbers may not sum to totals due to rounding

⁴ PwC, "Thai Entertainment & Media Spending to Reach \$14.8bn in 2017 as Internet, TV Ad Spend Leads Rise", in www.pwc.com

3. TELEVISION INDUSTRY

Television ownership in Thailand is close to universal, with 98 percent of the country's 23.2 million households owning a TV set in 2015.⁵ Such wide coverage helps the sector generate a significant economic footprint.

The transmission of programmes to consumers across Thailand comes in four forms: terrestrial broadcast TV (referred to simply as broadcast TV in this report); satellite TV; cable TV; and online TV (known as IPTV, or Internet Protocol Television).⁶ Among these four, revenues are driven by both subscriptions to pay-TV channels and advertising. Advertising revenues are the more substantial of these two sources, indeed TV is a dominant part of the whole of Thailand's advertising industry, accounting for 60 percent of all media advertising revenues in Thailand in 2015.⁷

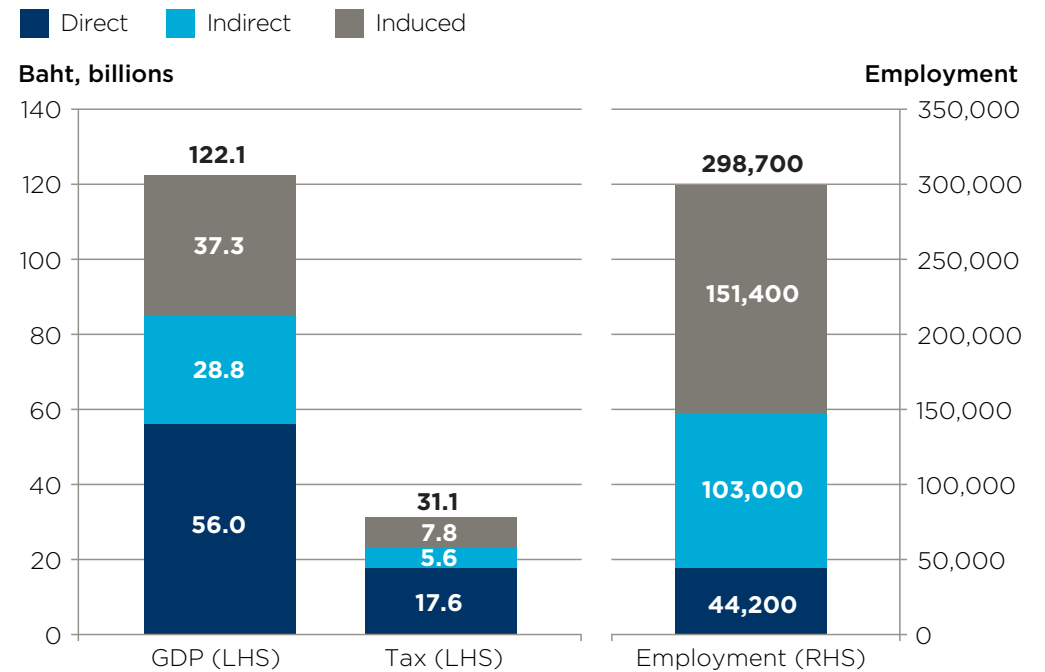
The remainder of the TV industry comprises of the production and distribution of TV programming.

3.1 CONTRIBUTIONS TO GDP AND TAX

Across the television industry as a whole, firms generated a direct contribution to GDP worth 56 billion Baht (Fig. 11). The additional impact made through the indirect effect of the supply chain and the induced contribution of boosted consumer spending added a further 28.8 billion and 37.3 billion Baht respectively. The total impact of the television industry to GDP was therefore worth 122.1 billion Baht.

The tax revenues that are generated from this activity total 31.1 billion Baht, more than half of this coming from the direct activities of firms in the sector (17.6 billion Baht), boosted by the licence fees paid by TV companies across different platforms.⁸

Fig. 11: Economic contribution of the TV industry



Source: Oxford Economics

Numbers may not sum to totals due to rounding

⁵ Datisis, "Thailand Pay-TV market 2012-2020" (Report, APAP TV Reports, 2016).

⁶ This categorisation differs from the previous analysis of the sector conducted in 2012, due to the use of alternative data sources.

⁷ Datisis, "Thailand Pay-TV market 2012-2020" (Report, APAP TV Reports, 2016).

⁸ This was modelled based on information in Datisis analysis of the sector.

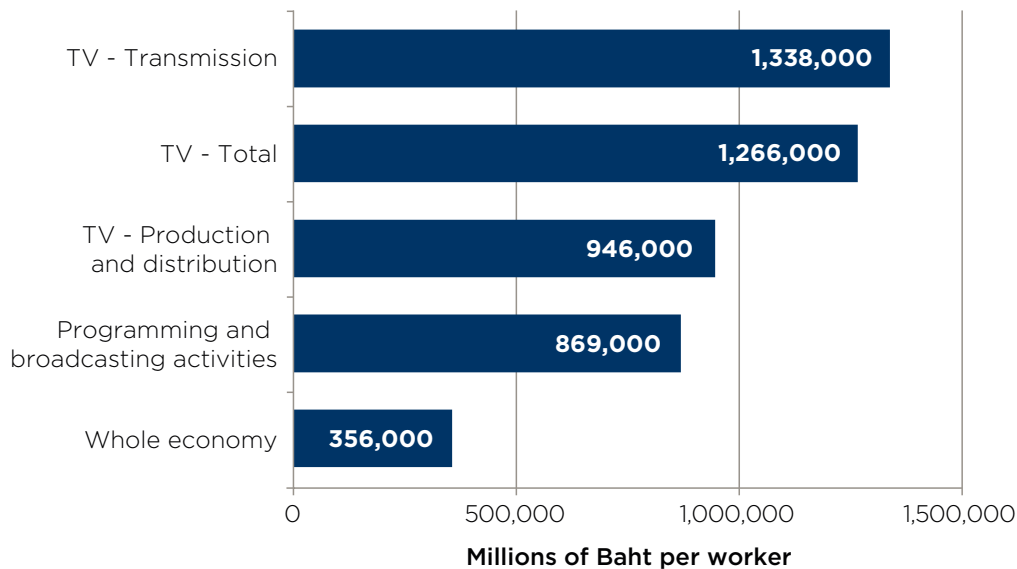
3.2 EMPLOYMENT AND PRODUCTIVITY

The economic activity of the television industry supports a large number of jobs. In 2015 this totalled 298,700, with 103,000 jobs supported indirectly through the industry's supply chain and 151,400 through the induced effects of consumer spending.

The direct contribution to employment is therefore relatively small. This low labour intensity is driven by the high productivity

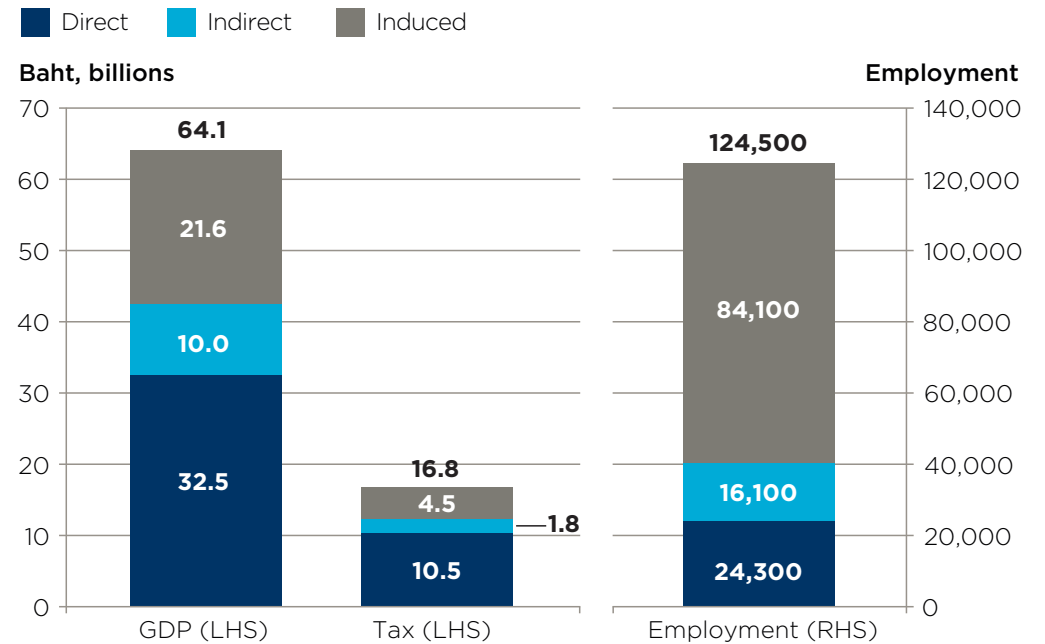
within the television industry, which contributed more than 1.26 million Baht per worker to GDP in 2015 (Fig. 12). This was more than three times the average productivity for the whole economy and 45 percent higher than the average productivity of the broader programming and broadcasting activities sector. This high productivity is primarily driven by transmission which is the largest and most productive component of the industry.

Fig. 12: Productivity of selected industries, contribution to GDP per worker



Source: Oxford Economics

Fig. 13: Economic contribution of broadcast TV



Source: Oxford Economics

Numbers may not sum to totals due to rounding

3.3 BROADCAST TV

The oldest and most prevalent form of TV in Thailand is free-to-air terrestrial broadcast TV. Through its activities a total combination to GDP of 64.1 billion Baht was made in 2015.

A total contribution to tax revenues worth 16.8 billion Baht was made by this segment in 2015. In addition 124,500 jobs were supported.

As the illustration of these impacts in Fig. 13 demonstrates, the induced contribution was significant. This

is due to relatively high employee remuneration, and the consumption that this supports, with induced employment being high due to the labour-intensive nature of consumer-facing industries. The indirect supply chain impacts are limited in this analysis given that a portion is accounted for in the production and distribution of TV, examined in Section 3.7. As the following sections illustrate, this pattern of a small indirect effect and large induced effect is repeated in all forms of TV transmission.

3.4 SATELLITE TV

Satellite TV does not operate on the same scale of broadcast TV, however its contribution is still noteworthy.

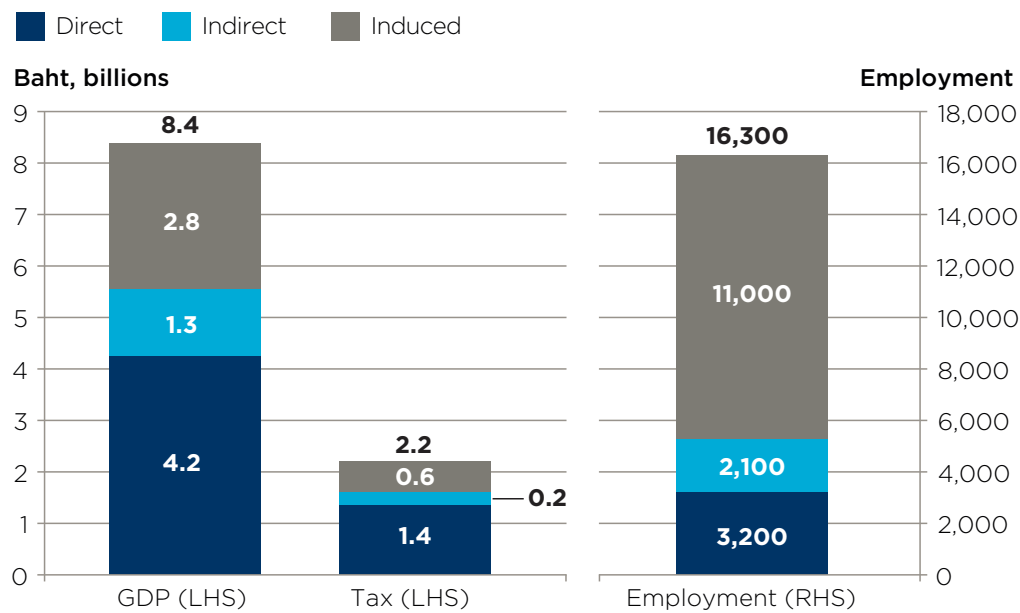
The overall impact on GDP equated to 8.4 billion Baht, supporting a 2.2 billion Baht tax contribution and 16,300 jobs.

3.5 CABLE TV

Some of the most significant changes currently being seen in the TV sector are within cable TV. Whilst analogue cable TV has historically been dominant, digital cable has grown rapidly, becoming the larger of the two in 2014. This is illustrated in Fig. 18, later in this section.

Considering both analogue and digital together, we estimate that the contribution of the sector to GDP in 2015 was worth 22.4 billion Baht. This supported 5.9 billion Baht in tax and a total of 43,400 jobs.

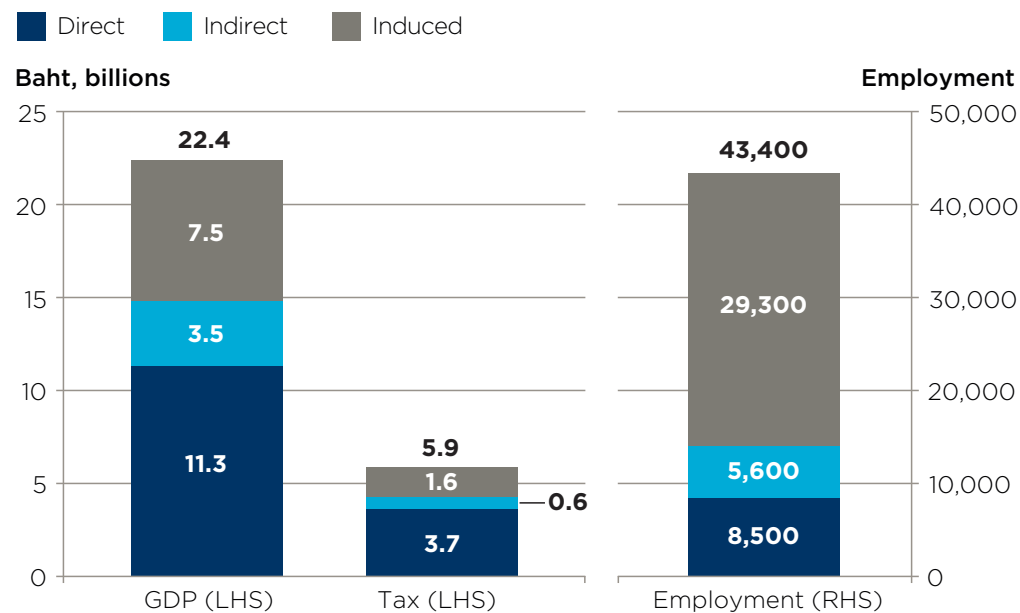
Fig. 14: Economic contribution of satellite TV



Source: Oxford Economics

Numbers may not sum to totals due to rounding

Fig. 15: Economic contribution of cable TV



Source: Oxford Economics

Numbers may not sum to totals due to rounding

3.6 IPTV

Relative to the other forms of TV programming distribution, IPTV is very much in its infancy. However understanding this industry is important given its scope for growth as online services become more established in Thailand.

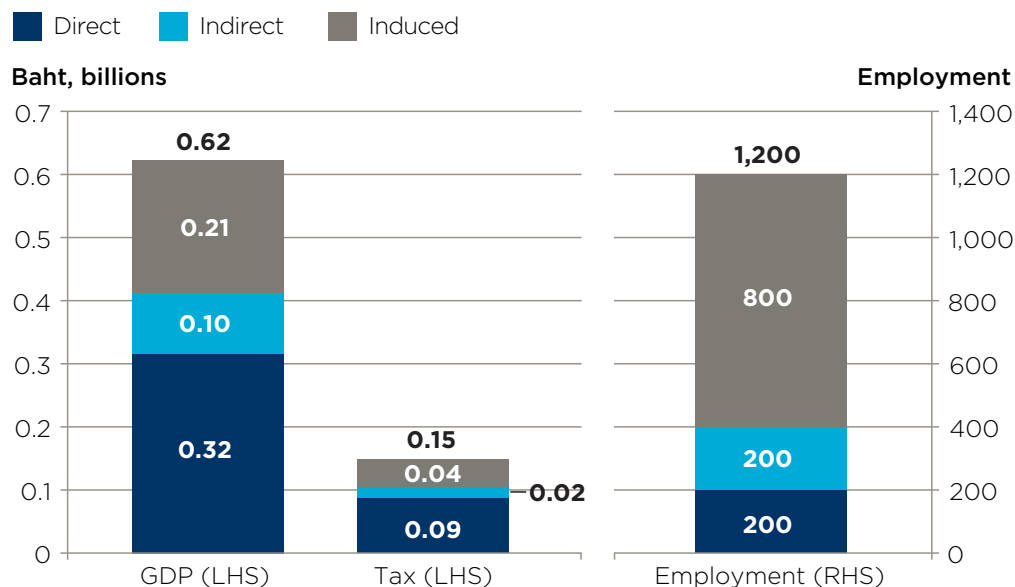
In 2015 IPTV was worth a total of 0.62 billion Baht to the Thai economy (Fig. 16). This contributed a total of 0.15 billion Baht to tax and supported 1,200 jobs.

3.7 PRODUCTION AND DISTRIBUTION

In addition to the transmission of programmes, the process of producing (including both production and post-production) and distributing content in Thailand can also be separately identified.

Firms working in this sector made a total contribution to GDP worth 26.6 billion baht in 2015. 6.1 billion Baht worth of taxes were supported, with a total impact of 113,300 jobs.

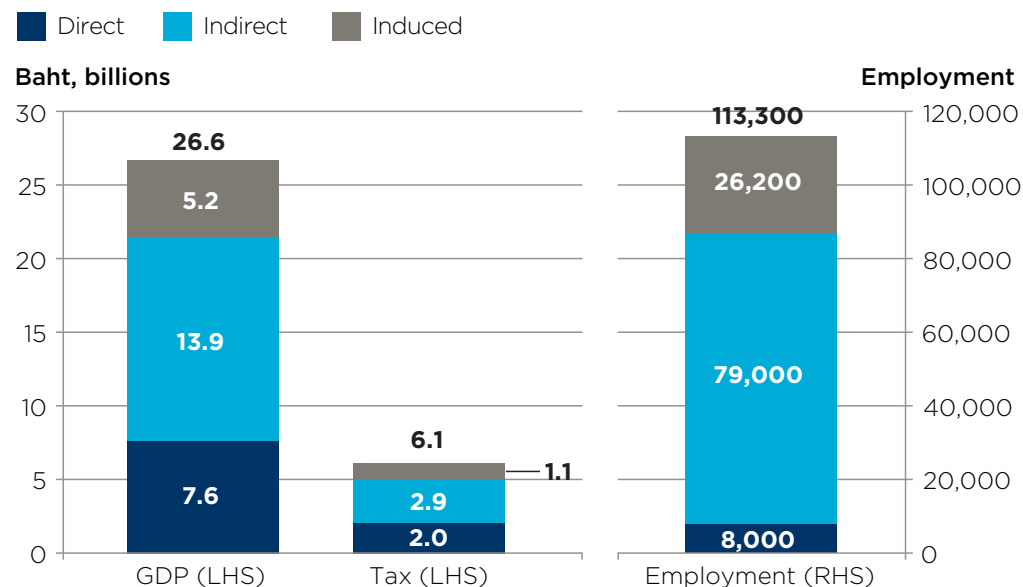
Fig. 16: Economic contribution of IPTV



Source: Oxford Economics

Numbers may not sum to totals due to rounding

Fig. 17: Economic contribution of TV production and distribution



Source: Oxford Economics

Numbers may not sum to totals due to rounding

3.8 EVOLUTION OF TV TRANSMISSION

In 2015, broadcast TV made up 67 percent of the revenues of the whole Thai television industry, contributing 77 billion Baht of the total TV revenue of 115 billion Baht.

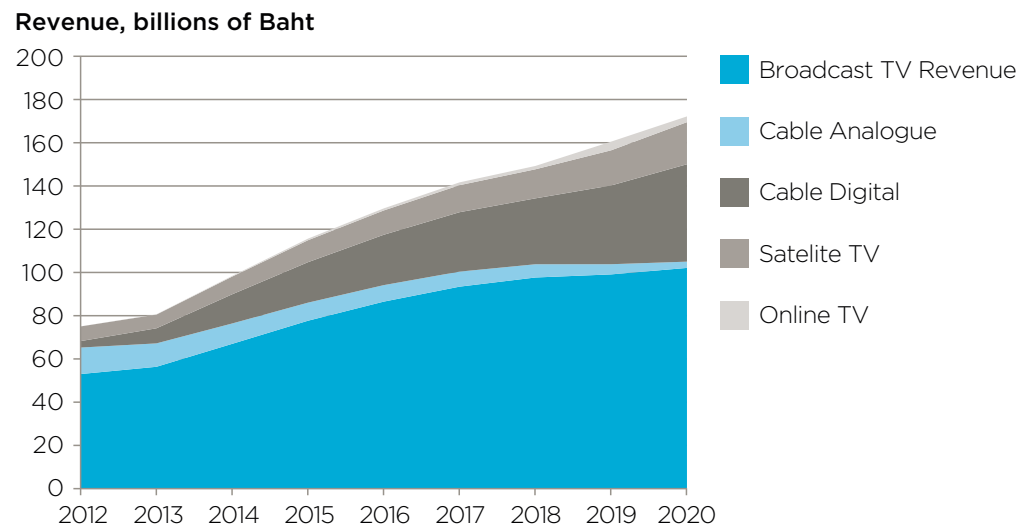
However the television industry in Thailand is evolving. Broadcast TV's share of industry revenues has already fallen from 71 percent in 2012 and, according to forecasts from Dataxis, is set to fall to 59 percent in 2020 (Fig. 18).⁹ This is likely to reflect the limited room that TV ownership has left to expand, restricting the scope for growth in advertising revenues.

There is however opportunity for growth via other television mediums. Despite accounting for only 4 percent of TV revenues in 2012, by 2015 digital cable TV had become the second largest component, set to expand to 26 percent of the market by 2020 as analogue cable declines. Satellite TV plays a more limited role and is expected to grow more steadily, from 9 percent in 2012 to 11 percent in 2020. As highlighted above, IPTV is much more in its infancy; according to these Dataxis forecasts it could represent 3% of the market by 2020.

The TV industry is therefore evolving in Thailand as the technological options increase and consumers are more able to purchase subscription options. This is reflected in the growing presence of pay-TV packages across the different forms of TV transmission detailed above.

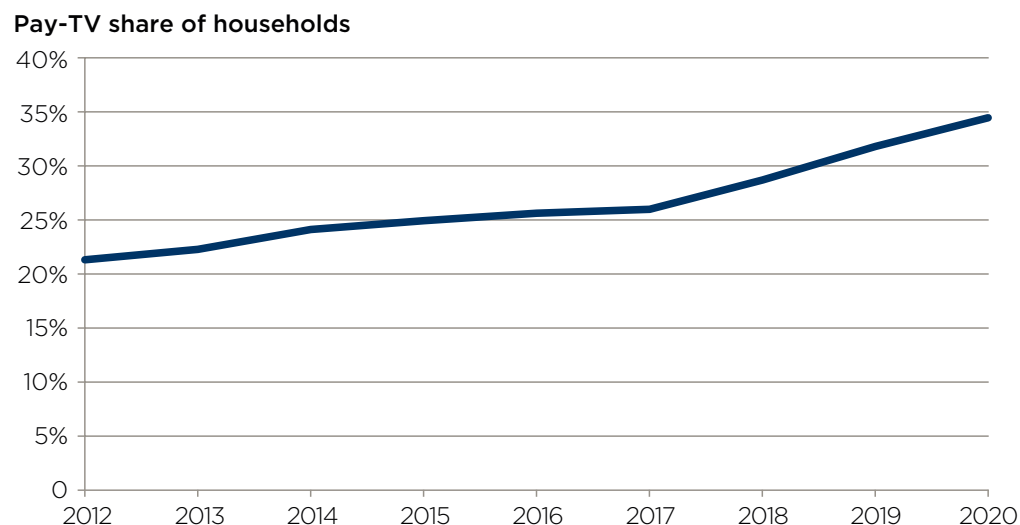
The number of pay-TV households is forecast to increase from 5.68 million in 2015 to 8.95 million in 2020, an increase from 25 percent to 34 percent of all households with TVs (Fig. 19).¹⁰ Such growth is premised on a projected strong rise in household income and expected improvements in the content provided by non-terrestrial services.

Fig. 18: Forecasted revenues from different forms of TV consumption



Source: Oxford Economics/Dataxis

Fig. 19: Share of TV-owning households with pay-TV packages



Source: Oxford Economics/Dataxis

⁹ Dataxis, "Thailand Pay-TV market 2012-2020" (Report, APAP TV Reports, 2016).

¹⁰ Dataxis, "Thailand Pay-TV market 2012-2020" (Report, APAP TV Reports, 2016).

4. FOREIGN PRODUCTIONS AND TOURISM

4.1 FOREIGN PRODUCTIONS

While relatively small in comparison to its TV counterpart, the Thai film industry is advantaged by its ability to attract foreign film productions to the country. Part of this is due to the fact that international standard equipment and studio facilities are available throughout Thailand. Moreover, with its diverse geographical characteristics and acknowledged natural beauty, Thailand offers a variety of spectacular landscapes; including: coastlines, reefs, rivers, lakes, mountains and green plateaus.

Accordingly, while the lumpy nature of the film industry means caution must be exercised in comparing specific years, the number of foreign films shot in Thailand has generally increased in recent years, driven in large part by productions from China, the UK, other Europe, the US, Australia and a variety of other countries. Accordingly, the number of foreign productions shot in Thailand increased from 578 in 2010 to 724 in 2015. In nominal terms the revenue generated by these productions increased from 1,869 million Baht in 2010 to

Fig. 20: Number and value of foreign productions in Thailand¹¹

Year	Advertising	Documentary	Music Video	TV Programs	Feature Films	Others	Total	Revenue (Million Baht)
2010	255	178	50	46	49	0	578	1,869
2011	296	155	34	86	35	0	606	1,226
2012	314	122	41	106	53	0	636	1,782
2013	346	150	47	107	67	0	717	2,173
2014	294	159	44	89	41	4	631	1,934
2015	329	176	57	96	63	3	724	3,164

Source: Thailand Film Office

3,164 million Baht in 2015. While the general trend appears to be upward, as indicated, there is still potential for substantial volatility in the data from year to year. For example, 2014 saw a notable fall-off in these figures (to 631 productions and 1,934 Baht respectively).

As the number of foreign productions, and foreign actors and crew members, grows, so too will the amount of money flowing into the Thai economy. This includes spending at production facilities, equipment rental companies, salaries and wages for Thai citizens as well as spending by foreign actors and crew at hotels, restaurants, and for other goods services while they are on location in Thailand.

Note, however, that such spending is effectively included in the estimates of the film and TV industry contributions, detailed above. As such, the economic, employment, and tax impacts of this spending have already been taken into account in our estimates of the Thai film industry's economic impacts.

¹¹ Source: Thailand Film Office: <http://www.thailandfilmoffice.org/index.php/en/film-statistics> Accessed September 19, 2016.

4.2 FILM AND TV INDUCED TOURISM

Apart from the spending of *foreign film productions* in Thailand, a separate issue is whether completed film and TV productions themselves (whether foreign or “local”) *induce* visitors to come to Thailand.

Much recent attention has been paid to the phenomenon of film and TV tourism around the world. Oxford Economics has investigated the global development of this phenomenon with specific reference to the UK, as a part of previous research.¹²

Within Asia, the growth of South Korean *Hallyu* (popular culture including films, TV, music and food) has been well documented. *Hallyu* has acted to induce large number of foreign visitors to visit South Korea. Many of these come from within the Asian region.

There would not appear to be any true equivalent to *Hallyu* in respect of Thai film and TV productions though there has also been little research of the impact of foreign-made (or local) films in encouraging tourism to the country. There have been claims that films such as 2000’s *The Beach* increased youth visitation to Thailand by 22 percent in that year.¹³ However, research by Warnick et. al., which investigated whether U.S. college students were more likely to visit Thailand after viewing the film, found that, while the film did enhance positive images of Thailand, there was no evidence that it made respondents more likely to visit the country.¹⁴

This result may, in fact, be a testament to the fact that Thailand is already seen in Western countries as a significant tourism destination in its own right. As such, film and TV productions may only have a limited ability to induce foreign visits by Westerners.

However, there is some (tentative) evidence which suggests that the situation may be different for consumers in emerging Asian nations such as China. Mass foreign tourism is relatively new to such markets and knowledge of Thailand may be limited. In particular, media reports have suggested that films such as 2012’s Chinese comedy, *Lost in Thailand*, may have boosted tourism to the country - and to Chiang Mai in particular. This was doubtless helped by the fact that the film was reported to be the highest grossing Chinese language film ever made up to that time.¹⁵ Phomsiri has likewise pointed to the success of *Lost in Thailand*, noting that visa applications at Thailand’s Shanghai consulate in 2012 numbered some 600,000 - a 50 percent increase on 2011 - though no attempt is made to determine causality.¹⁶

Factors such as the growth of emerging market Asian tourism and a relative lack of awareness of Thailand among such consumers therefore hold some promise for the future growth of film induced tourism in Thailand.

¹² Oxford Economics, *The Economic Impact of the UK Film Industry*, 2012

¹³ Cited in Hudson, S. and Richie J., “Promoting Destinations via Film Tourism: An Empirical Identification of Supporting Marketing Initiatives”, *Journal of Travel Research*, Vol. 44, May 2006, pp.387-396

¹⁴ Warnick, B., Bojanic, D., Sirianguk A., “Movie effects on the Image of Thailand among college student travellers” *Proceedings of the 2005 Northwestern Recreation Research Symposium*, 2005

¹⁵ Samu Times ‘Lost in Thailand’ film results in tourists from China, <http://www.samuitimes.com/lost-thailand-film-results-tourists-china/> accessed 22 September 2016

¹⁶ Phomsiri, S., “Film Tourism and Destination Marketing: Case studies of In-bound and Out-bound in Thailand”, *Review of Integrative Business and Economic Research*, Vol 4, No. 3, 2015

5. CONCLUSION

Thailand's film and TV industry is a productive part of the national economy, directly contributing 0.4 percent of national GDP. The industry also forms a vital part of Thailand's creative sector

TV forms the largest share of the sector, with broadcast TV the primary contributor. Other forms of television are set to increase their share of the market given the physical limitations to broadcast TV's growth. However, broadcast TV's substantial advertising revenues mean that it may maintain its market prominence for some time to come.

The Thai film industry has traditionally had a smaller role than the TV industry, however it still supports more than 31,000 jobs in total. Furthermore, if it is able to attract investment in foreign film production the sector might have the potential to expand at a faster rate than other components of the industry.

Overall, the Thai film and TV industry generates highly productive jobs which support employees' incomes and make strong contributions to government finances. The sector therefore plays an important role in spreading greater prosperity and supporting government finances.

6. METHODOLOGICAL APPENDIX

This section of the report offers a detailed review of the data, information and technical approaches utilised in producing this analysis.

6.1 QUANTIFYING THE DIRECT CONTRIBUTION

The initial stage of our analysis involved assessing the value of the contributions of all the different components of the film and TV industry, utilising a range of different data sources.

The Business Trade and Services Survey (BTSS), published by the National Statistics Office of Thailand provides a useful industrial breakdown, with the most recent release covering 2013.¹⁷ This identifies a range of characteristics for the motion picture, video and television programme production industries.

Data in the release identified the value of the film production, post production and distribution sectors. Values for these variables in 2015 were generated based on changes in the output of the industry (measured in terms of films produced) between 2013 and 2015, using data from the Thai Film Office, and inflation data taken from the Oxford Economics Databank.¹⁸

This was utilised to establish the value of the production, post-production and distribution of films in Thailand in 2015. Film exhibition was based on this approach, except that it was assumed to have grown in line with private consumption (accessed from the Oxford Economics Databank compilation of Central Bank data) rather than based on motion picture productions.

TV production, post production and distribution also utilised the BTSS data, with 2015 estimates produced based on the growth in the services industry in Thailand, (using central bank data accessed from the Oxford Economics Databank).

One area where the BTSS this does not satisfactorily report the sector's outputs is the transmission of television. Instead, our analysis utilised data and forecasts presented in the "Thailand Pay-TV market 2012-2020" report by Dataxis.¹⁹ This gave the total revenues of the satellite TV, cable TV and IPTV sectors.

The report also estimated the advertising revenues of Broadcast TV in 2015. An academic report, Hoonsawat (2013), identified that advertising made up 90% of the revenues of broadcast TV, allowing the sector's total revenues in 2015 to be estimated.²⁰

Across all of these forms of activity, BTSS data was used to transform the gross output estimated for each sector into estimates for GDP, employment costs and intermediate purchases. The BTSS also allowed employment to be estimated, however these estimates were scaled according to the change in productivity in Thailand between 2013 and 2015 (again using central bank data accessed from the Oxford Economics Databank).

Taken together this data allowed for estimation of the direct contributions to the Thai film and TV industry.

¹⁷ National Statistics Office of Thailand, "The 2014 Business Trade and Services Survey, Whole Kingdom" (Data Release, 2014).

¹⁸ Source: Thailand Film Office: <http://www.thailandfilmoffice.org/index.php/en/film-statistics> Accessed September 19, 2016.

¹⁹ Dataxis, "Thailand Pay-TV market 2012-2020" (Report, APAP TV Reports, 2016).

²⁰ R. Hoonsawat, "Technological Migration: The Case of Thai Digital Terrestrial Television", *Applied Economics Journal*, Vol. 20 No. 2 (2013).

6.2 ANALYSING THE WHOLE ECONOMIC IMPACT

Assessing wider economic contribution made by the film and TV industry involved utilising an Input-Output (I-O) table for Thailand in 2010, accessed from the OECD.

The I-O table was used to establish the pattern of purchases of goods and services that the individual sectors within the film and TV industry make across the Thai economy, and leakage from the supply chain. Purchases made further down the supply chain are also factored in. This establishes the gross output of the indirect effect. GDP and employee costs were estimated based on the ratios given in the I-O table.

Calculating the induced contribution involved identifying the earnings of individuals employed either directly or indirectly. The direct and indirect cost of employment had already been calculated. Taxes were deducted, calculated from data from Thailand's Ministry of Finance, accessed through Haver Analytics. The share of these earnings that were spent was estimated based on national private consumption as a share of disposable income (National Economic and Social Development Board data, accessed through Haver Analytics).

This total consumption was mapped across different industries based on the pattern of household spending reported in the I-O table, with this again used to map the impact through its supply chain. As with the indirect effect, the I-O table was used to analyse GDP and other economic outputs.

The indirect and induced effects of employment were estimated using the relationship between GDP and employment, provided by data from the National Statistics Office and Central Bank, accessed through Haver Analytic.

Direct, indirect and induced tax contributions were analysed based on the effective tax rates charged on employee earnings (individual income tax), corporate profits (corporate income tax), consumption (VAT, service taxes and excise duties) and imports (customs and other import taxes). This used data on tax and economic statistics from the National Statistics Office.

6.3 MULTIPLIERS

The activity that firms generate through their supply chains and induced consumer spending means that their total economic footprint is significantly greater than their direct contribution alone. The size of this multiplier effect depends on the sector's reliance on its supply chain and employees, as reflected in the value of its intermediate purchases and employee remuneration, as well as the kinds of industries it purchases from. Our approach combines the evidence on the structure of the sector from BTSS and the way that this filters into the rest of the economy through the I-O table.

Two forms of multiplier are detailed in Fig. 21. The Type I multipliers consider the size of the direct and indirect contributions relative to the size of the direct contribution alone. The Type II considers the whole of the direct, indirect and induced effects relative to the direct effects.

6.4 GDP MEASURE

The GDP estimates reported in the study are in basic prices, that is excluding taxes on products (such as VAT or sales tax) plus subsidies on products. GDP at basic prices is also known as Gross Value Added (GVA).

Technically, GDP is more commonly reported in market prices i.e. including taxes on products less subsidies on products. The relationship between GDP at market prices and GVA is as follows:

GDP at market prices = GVA plus taxes on products (such as VAT or sales tax) less subsidies on products, which in general means that GAV is modestly smaller than GDP at market prices. GDP at market prices is typically the "headline measure" of GDP used in Thailand and most other countries.

Fig. 21: Gross Output and GDP multipliers, by sub-sector

Sub-Sector	Output		GDP	
	Type I	Type II	Type I	Type II
Film Production & Distribution	2.1	2.8	2.2	2.9
Film Exhibition	1.7	2.0	2.0	2.5
Home Entertainment	1.3	1.7	1.1	1.3
TV Production & Distribution	2.3	2.7	2.8	3.5
Broadcast TV	1.4	2.1	1.3	2.0
Cable TV	1.4	2.1	1.3	2.0
Satellite TV	1.4	2.1	1.3	2.0
Online (IPTV)	1.4	2.1	1.3	2.0
Total	1.6	2.3	1.5	2.2

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