



# SCREEN BUSINESS

**How screen sector tax reliefs  
power economic growth across  
the UK 2017–2019**

A report commissioned by BFI  
from Olsberg•SPI with Nordicity

December 2021

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# FOREWORD

The UK's creative industries are genuinely world-class, projecting our values and influence around the world. And whether it is a small theatre in a market town, an independent cinema or a nationally significant body, they bring joy and enrichment to our day-to-day lives in all our communities.

So, it is great to see that since the last edition of this report in 2018, the UK's unique, world-class creative talent has continued to produce work of the highest quality.

Whether it is with the development of interactive and immersive games such as *Dreams*, award-winning films such as *The Favourite*, the popular animation of *The Gruffalo*, or high-end TV productions such as *His Dark Materials*, the UK creative industries have underlined their positions as global leaders.

2020 and 2021 have been challenging years for the whole country, including our creative industries which are a vital part of the cultural fabric of the UK. That is why the Government stepped in. Alongside the Coronavirus Job Retention Scheme (CJRS) and the Self-Employed Income Support Scheme, which have protected 11.6 million jobs and supported nearly three million self-employed individuals respectively, the Government has launched initiatives such as the £500 million Film & TV Production Restart Scheme, which has helped productions to continue in the absence of insurance for COVID-19 related risks, protecting over 80,000 jobs. The Government is also supporting apprenticeship training, offering employers over 600 employer-designed, high quality apprenticeships to choose from. This includes key roles in the creative sector such as Post-Production Engineer, VFX Artist and Props Technician, helping people of all ages and at all career stages gain valuable skills and retrain.

The Government will continue to support our highly-skilled and innovative creative industries through creative sector tax reliefs. In 2020-21 alone the film, TV, video games, children's TV and animation industries reliefs provided more than £1.2 billion of support to over 2,000 projects. These reliefs have also helped to spur a new wave of private investment to develop major production hubs and centre points for high quality crew and studio space all over the UK, from Belfast to Buckinghamshire, supporting tens of thousands of jobs.

I would like to thank the BFI for its efforts in continuously championing the screen sectors and supporting them through the pandemic.

Looking to the future, I am confident that the creative industries in the UK will continue to prosper, compete internationally and be a glittering showcase for British culture.



**The Rt Hon Rishi Sunak MP**  
Chancellor of the Exchequer

# FOREWORD

This second edition of the *Screen Business* report provides a comprehensive analysis of the value of the screen sector tax reliefs to the industry and to the wider UK economy. It shows the tax reliefs have been instrumental to how UK made and developed film, high-end, children's and animation television and video games have flourished since the reliefs were introduced.

In 2019 alone, these areas of screen production delivered £13.48bn to the UK economy – a significant increase from £8.6 billion in 2016 – and generated 218,790 jobs. The reliefs have also helped to attract significant capital investment into the sector's facilities and services, generating an additional £3.60 billion in tax revenue to the Exchequer, as well as driving business for industries such as merchandising and tourism.

The reliefs are also vital to UK creativity and culture. We make high quality film, television and screen content that is enjoyed by audiences at home and around the world, demonstrating our talent and innovation in creative storytelling, and the skills and expertise of our world-class crew, cast, video games developers and production businesses.

Over the period of the report and running on into this year's recovery period, the sector has been hard at work making international blockbusters such as *Mission: Impossible – Fallout*, the new *Indiana Jones* and *Wonka* and independent UK films such as *The Personal History of David Copperfield*, *Yardie*, *Mogul Mowgli* and *Rocks*. UK companies have created a string of global television hits from *His Dark Materials*, *Peaky Blinders* and *Line of Duty* to the animated *Peppa Pig*, *Shaun the Sheep* and *Sarah and Duck*, and programmes for children such as *The Worst Witch* and *Horrible Histories*. UK video games developers are also behind some of the world's biggest selling titles such as *Grand Theft Auto V*, *Batman: Arkham Knight*, the *LEGO* and *Forza Horizon* series and *Formula One* games.

The report's analysis concludes before the onset of the pandemic (the last point at which full data is available), which globally brought many industries to a halt. Since then, the BFI's latest statistics have shown a bounce-back in activity, with £1.24 billion of film and high-end television spend during the last quarter of 2020. This has only accelerated during 2021 and we are now on a trajectory to surpass pre-pandemic business levels as we close in on £5 billion production spend solely on film and high-end television over the past 12 months. The adjustment to the film tax relief announced in the Government's November 2021 Spending Review will support the highly connected way that the film and HETV now work to fund and produce content.

*Screen Business* has expanded its analysis in a number of areas to look in more detail at the UK's position in a growing and highly competitive industry globally. For the first time, the report provides a detailed comparison of global tax reliefs – other countries are now revising their reliefs to encourage specific types of production. It illustrates the vital role the reliefs play in giving the UK a competitive and stable market position in a growing and highly competitive industry globally in which to develop and produce content, as well as supporting the UK in developing and creating IP.

# FOREWORD

The new UK Global Screen Fund, administered by the BFI on behalf of the Government, was launched last year with the aim of boosting our exports, UK co-productions and the UK's development of international partnerships.

In recent years, the UK's nations and England's regions outside the London area, have seen increasing amounts of film and high-end television production generating economic growth and creating jobs. Multi-million pound investments in expanding studio capacity across the UK have also accelerated significantly, to meet the demand for production. Actual production budget breakdowns in the report also demonstrate the ripple effect spend on local business sectors that supply goods and services to film and high-end television productions.

The analysis also takes a deeper dive into the UK's world-leading VFX sector and screen sector innovations, and the potential they hold for the UK economy more widely.

This is all good news for the sector overall, however it is not without significant challenges which have been thrown into sharp focus for independent film production in the wake of accelerated production growth - namely higher costs for Covid-safety, skills shortages being addressed through the government and industry skills review, and a rapidly shifting international landscape.

This report sets out to empower industry decision-makers in growing their businesses, and policy-makers at every level of local, national and UK-wide government in looking to create the best possible conditions for future growth. The screen sectors are a huge economic asset to the UK and, with the maintenance of the screen sector tax reliefs and continued investment in nurturing diverse creative talent, skills and infrastructure by both Government and industry alike, the screen sector is an engine primed to support the UK's economic recovery.



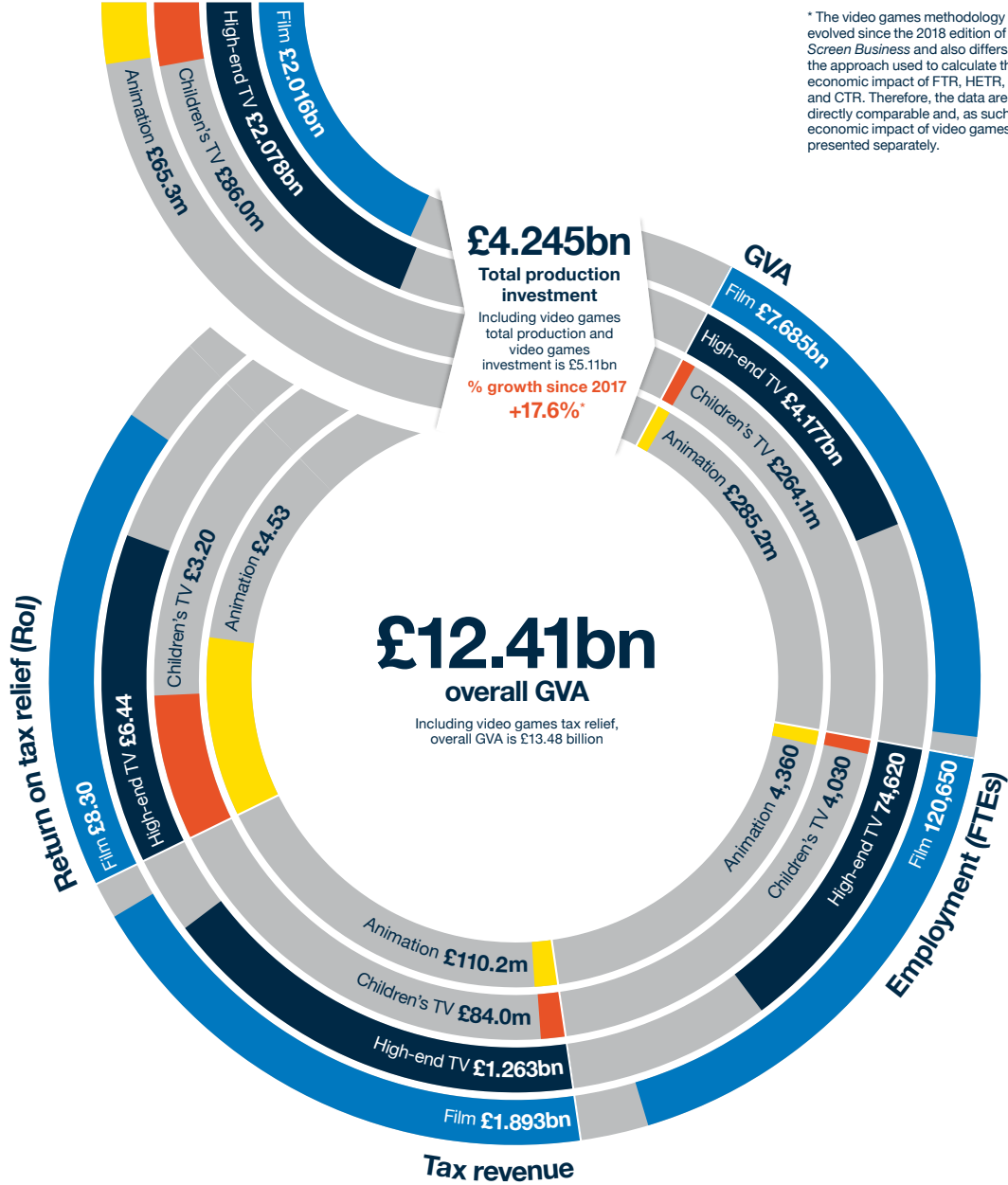
**Ben Roberts**  
Chief Executive, British Film Institute

# SUMMARY

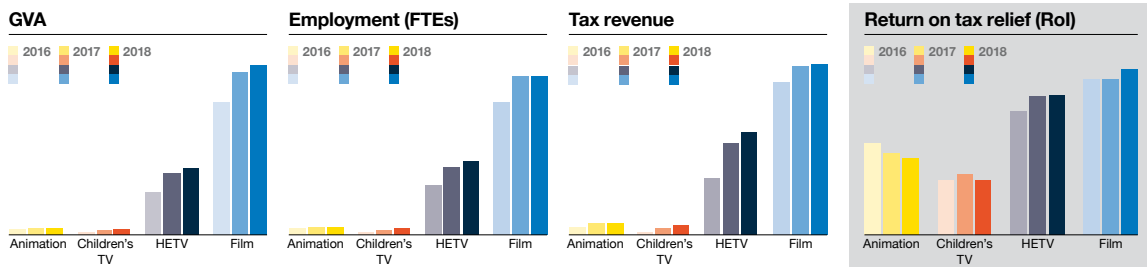
The background features a large blue triangle in the upper left, a yellow triangle in the lower right, and an orange triangle in the lower left. The word 'SUMMARY' is written in white, bold, uppercase letters, rotated 90 degrees counter-clockwise, and positioned in the upper left area of the blue triangle.

# Tax relief impact, 2019

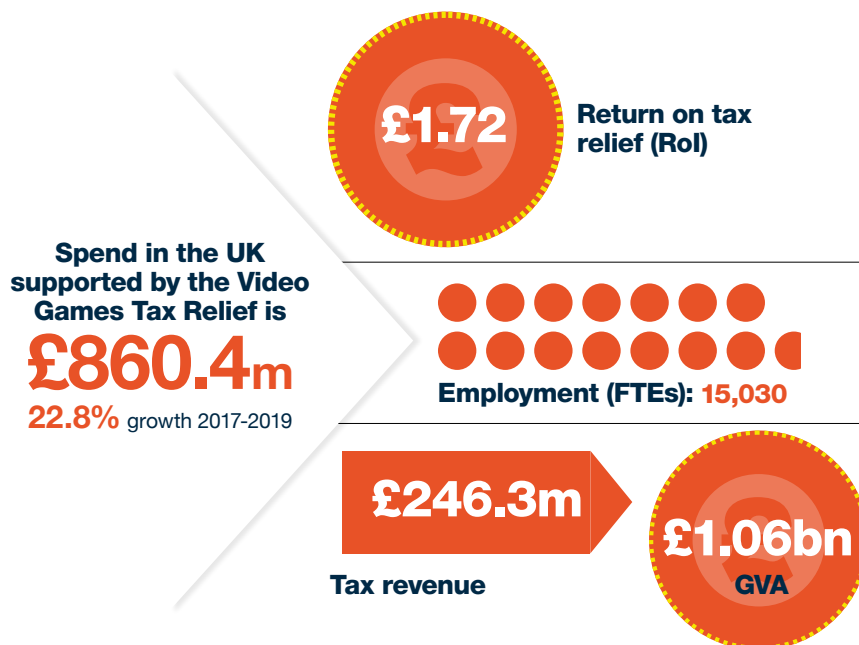
## Production Expenditure\*



\* The video games methodology has evolved since the 2018 edition of *Screen Business* and also differs from the approach used to calculate the economic impact of FTR, HETR, ATR and CTR. Therefore, the data are not directly comparable and, as such, the economic impact of video games is presented separately.



## Video games impact, 2019\*



## Total video games sector impact, 2019



\* The video games methodology has evolved since the 2018 edition of *Screen Business* and also differs from the approach used to calculate the economic impact of FTR, HETR, ATR and CTR. Therefore, the data are not directly comparable and, as such, the economic impact of video games is presented separately.

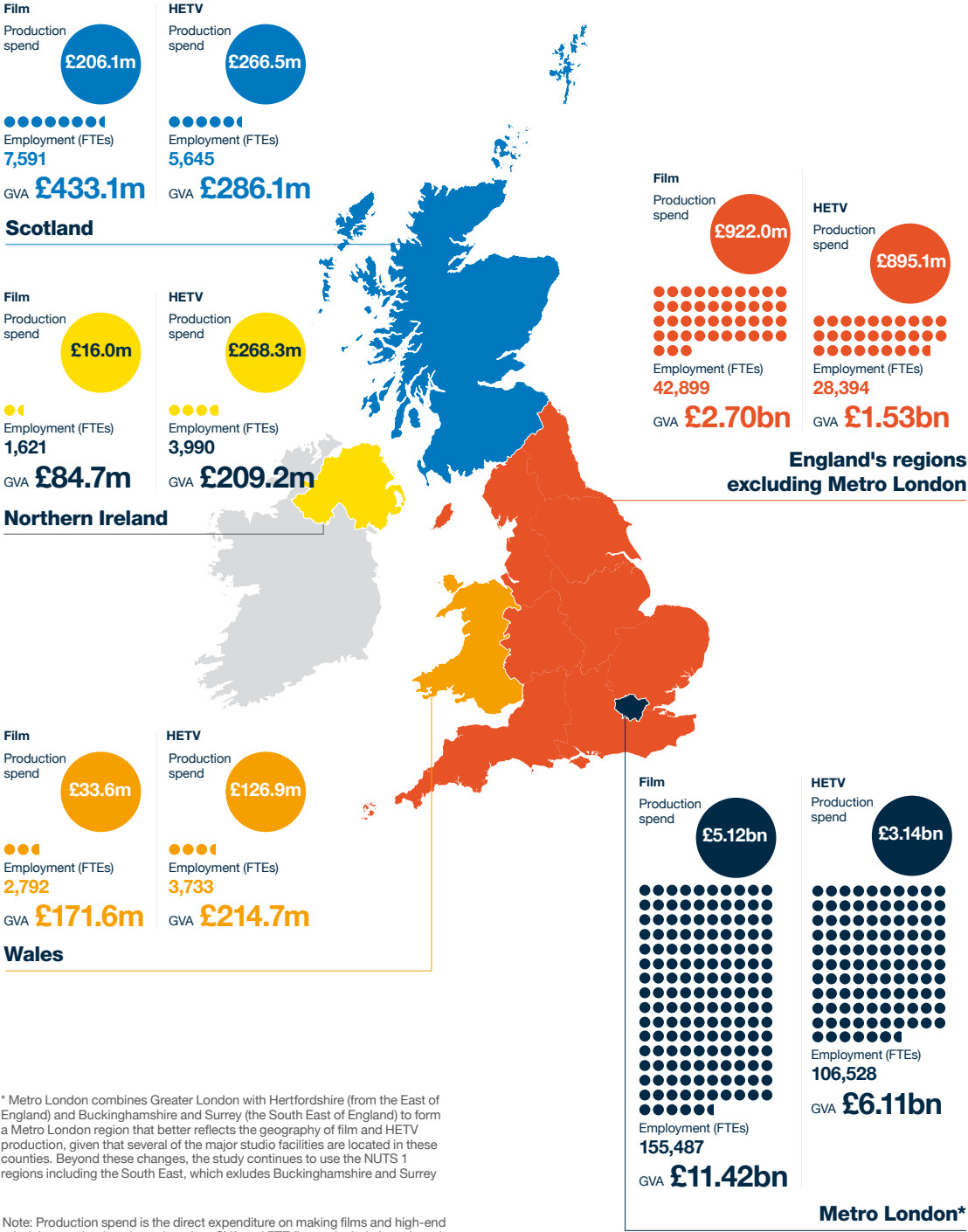
Due to the length of the video games development process and the way in which the Video Games Tax Relief (VGTR) supports developers, there can be a significant lag in reporting and it can take several years for actual expenditure figures to

consolidate. Therefore, the profile of video games expenditure supported by the tax relief in any given year is only a partial picture of the actual expenditure across the sector.

The VGTR-supported video games sector in the UK represents only a portion of current activity. To provide a full picture of the impact of the video games sector in the UK, analysis has been undertaken for *Screen Business* to estimate the total economic contribution of video games.



# The impact of the film and high-end television tax reliefs UK-wide, 2017-2019



\* Metro London combines Greater London with Hertfordshire (from the East of England) and Buckinghamshire and Surrey (the South East of England) to form a Metro London region that better reflects the geography of film and HETV production, given that several of the major studio facilities are located in these counties. Beyond these changes, the study continues to use the NUTS 1 regions including the South East, which excludes Buckinghamshire and Surrey

Note: Production spend is the direct expenditure on making films and high-end television productions in each nation. GVA and FTE figures include broader value and employment generated by production spend through the HETV and film content value chains (including direct indirect and induced impacts)



# CONTEXT



*Screen Business* provides a comprehensive analysis of the economic contribution of the UK's screen sector tax reliefs: Film Tax Relief (FTR), High-end Television Tax Relief (HETR), Animation Tax Relief (ATR), Children's Television Tax Relief (CTR) and Video Games Tax Relief (VGTR).

These reliefs help to make the UK a competitive and stable market to develop and produce content. While the reliefs are a primary driver of production and development growth in the UK screen sectors, the UK's highly developed production and development offer are also key success factors. There is a world-renowned base of talent and creative businesses in the UK, as well as a specialised offer of physical infrastructure, skilled crew and supply-chain businesses, which has developed over many years. These areas continue to see strong investment and strategic development.

*Screen Business* is published against a backdrop of an unprecedented explosion of screen production – driven by voracious global consumption and major investment flows from established players and newer market entrants. In 2019, global expenditure on feature film and television production – ie investment in scripted film and television and documentaries, but not sport, news or commercials – was estimated to have reached \$177 billion.<sup>1,2</sup> As a result, the screen sector is a powerful economic driver – particularly in jurisdictions, such as the UK, which have a highly-developed development and production offer and a stable incentives base.

Undertaken by Olsberg•SPI with Nordicity, and commissioned by the British Film Institute (BFI) through its National Lottery-supported Research and Statistics Fund, *Screen Business* updates previous analyses published in 2015 and 2018.

This edition of the study extends the focus of previous versions of *Screen Business* by examining a broader three-year timeframe, spanning 2017, 2018 and 2019.

The analysis is consistent with the 2018 version of *Screen Business* and applies HM Treasury Green Book principles and best practice economic modelling to accurately estimate the impact of these important revenue-generating tax reliefs for the economy, HM Government, infrastructure investment and employment.<sup>3</sup>

A number of new and expanded elements are also included. For the first time, an analysis of the impact of FTR and high-end television (HETV) production is provided for the UK's nations and England's regions as well as a detailed assessment of key global incentive models that compete with the UK. As with the 2018 edition of *Screen Business*, the impact of the tax reliefs on the visual effects (VFX) sector has also been analysed. While not a direct recipient of its own tax relief, UK post-production including VFX does qualify within the reliefs, and the sector is an important and creative element of the UK production value chain.

The study period ends before the onset of the global COVID-19 pandemic, and its impacts have not been analysed. Nevertheless, this edition of *Screen Business* will provide an important benchmark by which impacts can be measured in the future.

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**1.** *Global Screen Production - The Impact of Film and Television Production on Economic Recovery from COVID-19*. Olsberg•SPI, 25 June 2020. Accessible at: <https://www.o-spi.co.uk/wp-content/uploads/2020/06/Global-Screen-Production-and-COVID-19-Economic-Recovery-Final-2020-06-25.pdf>

**2.** According to data from Newzoo, the global video games market generated revenues of \$144.4 billion in 2019, though this revenue metric is not directly comparable with film and television production expenditure. *Global Games Market to Generate \$175.8 Billion in 2021; Despite a Slight Decline, the Market Is on Track to Surpass \$200 Billion in 2023*. Newzoo, 6 May 2021. Accessible at: <https://newzoo.com/insights/articles/global-games-market-to-generate-175-8-billion-in-2021-despite-a-slight-decline-the-market-is-on-track-to-surpass-200-billion-in-2023/>

**3.** One exception in terms of continuity is VGTR. While the approach is consistent with that used in the 2018 edition of *Screen Business* across FTR, HETR, ATR and CTR, it has been necessary to undertake a revised approach for VGTR because a significant reporting lag means that it can take several years for actual expenditure figures to consolidate. An estimation of spend for VGTR was therefore undertaken

# KEY FINDINGS

# 2

Analysis of the economic contribution of the UK's screen sector tax reliefs focuses on the following key areas:

- Investment in film and television production and video games development<sup>4</sup>
- Inward investment
- Employment
- The UK economy
- Productivity
- Other benefits such as merchandising, tourism and UK brand promotion
- Return on investment (RoI)
- The impact of film and high-end television (HETV) in the UK nations and England's regions
- The ripple effect of film and HETV spend into other business sectors
- UK film and television studios
- Innovation

## 2.1. Delivering growth in production and development investment

- Production and video games development supported by the UK screen sector tax reliefs – ie Film Tax Relief (FTR), High-end Television Tax Relief (HETR), Animation Tax Relief (ATR), Children's Television Tax Relief (CTR) and Video Games Tax Relief (VGTR) – reached a record total of £5.11 billion in 2019, an 18.4% increase on 2017. FTR production represented 39.5% of this total in 2019, while HETR production contributed 40.7% in 2019. VGTR contributed 16.9%, while ATR and CTR contributed 1.3% and 1.7% respectively.<sup>5</sup>
- While the tax reliefs have driven growth in the screen sectors, the UK's base of talent, skills, physical infrastructure and supply-chain businesses also contributes to its global competitiveness.
- UK production spend on film was above £2 billion in each of the years analysed for this study. In 2019, spend was £2.02 billion, which represents an increase from £849.2 million in 2007 – the year that FTR was introduced.<sup>6, 7</sup>
- High-end television (HETV) production supported by the tax reliefs increased from £1.23 billion in 2017 to £2.08 billion in 2019.<sup>8</sup> This represents an increase from £392.8 million in 2013 – the year that HETR was introduced.<sup>9</sup>

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4. While development is a process across the screen sectors, it is used in this study to refer to the development of video games

5. Due to reporting lag, production and development totals are expected to be revised upwards in the coming years

6. *Film, high-end television and animation programmes production in the UK: full-year 2020*. The BFI Research and Statistics Unit (RSU), 4 February 2021. Accessible at: <https://core-cms.bfi.org.uk/media/6334/download>

7. 2007 total sourced from the BFI RSU

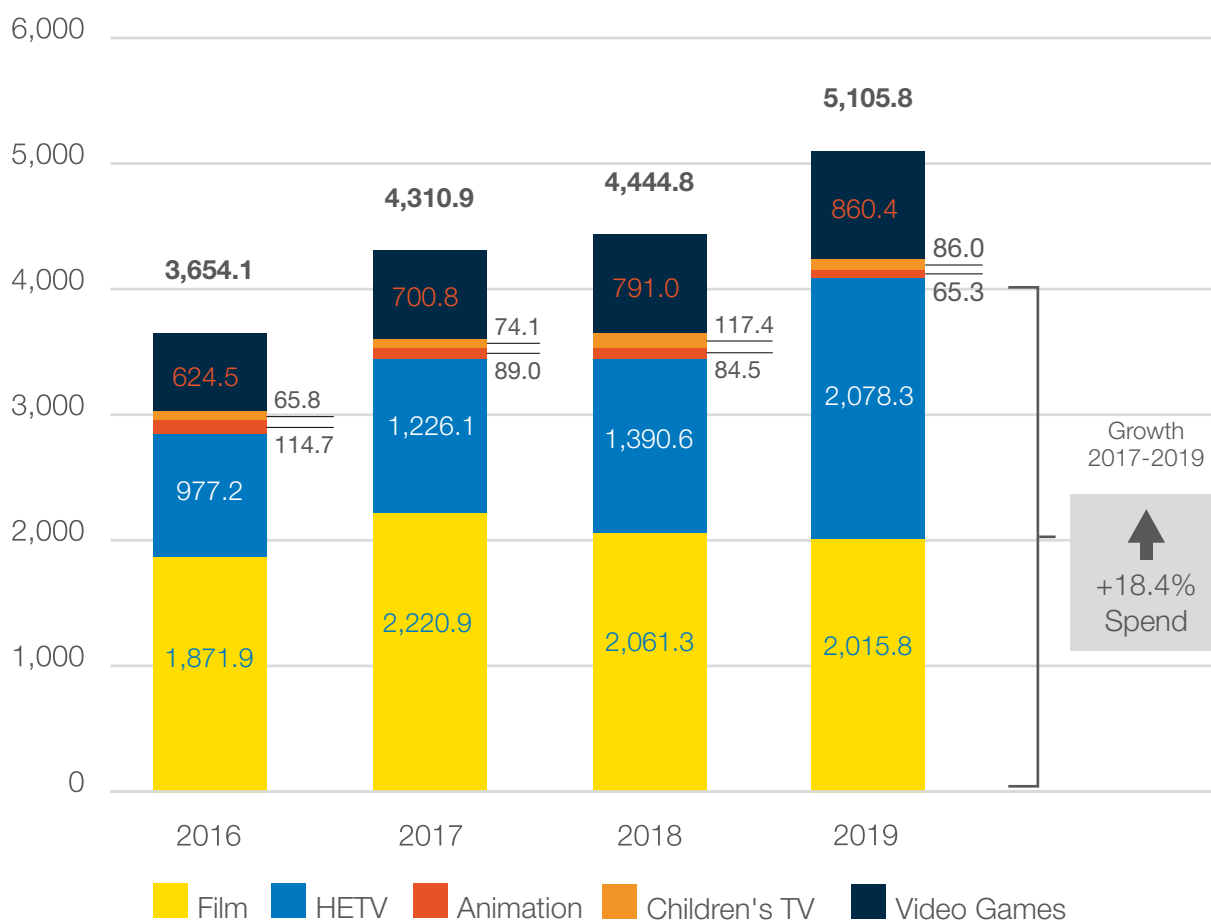
8. *Film, high-end television and animation programmes production in the UK: full-year 2020*. Ibid

9. 2013 total sourced from the BFI RSU

- Video games development spending supported by VGTR was an estimated £700.8 million in 2017, £791.0 million in 2018 and £860.4 million in 2019.<sup>10</sup>
- The value of animation programme production supported by the tax reliefs declined to £65.3 million in 2019, from £84.5 million in 2018. This represents a decline from £79.9 million in 2013 – the year that ATR was introduced.<sup>11</sup>
- Children’s television production spend was £74.1 million in 2017, £117.4 million in 2018 and £86.0 million in 2019. This represents an increase from £43.4 million in 2015 – the year that CTR was introduced.<sup>12</sup>
- While the UK is an attractive production and development market for domestic and international investors – with an established base of skills, infrastructure and creative talent – the tax reliefs are a cornerstone element of the UK’s ability to compete for and grow production and development.

**Figure 1**  
**Growth in UK spend supported by the screen sector tax reliefs, 2016-2019 (£m)**

**Production/development spend £m**



Source: The BFI

<sup>10.</sup> Because of a significant reporting lag, a different approach to estimating expenditure has been undertaken for VGTR. As the 2019 total is an estimation, it has not been compared to spend in the year that VGTR was introduced, unlike the other sectors in this section

<sup>11.</sup> 2013 total sourced from the BFI RSU

<sup>12.</sup> 2015 total sourced from the BFI RSU

## 2.2. Driving inward investment

- On a combined basis, the screen sectors in receipt of tax relief attracted significant amounts of inward investment into the UK between 2017 and 2019.<sup>13</sup>
- Throughout this period, spend on inward investment production accounted for the vast majority of film production in the UK. In 2019, inward investment film production reached £1.77 billion, or 87.9% of total film spend. With co-productions, this increases to 89.7% of total spend.
- Of the £2.08 billion spend on qualifying HETV production in the UK in 2019, £482.4 million was contributed by domestic UK productions and just under £1.60 billion – 76.8% of the total – by inward investment and co-production spend.
- Of the £65.3 million spent on the production of animation programmes supported by tax relief in 2019, £31.8 million – 48.7% of the total – was contributed by inward investment and co-production spend.

## 2.3. Growth in employment

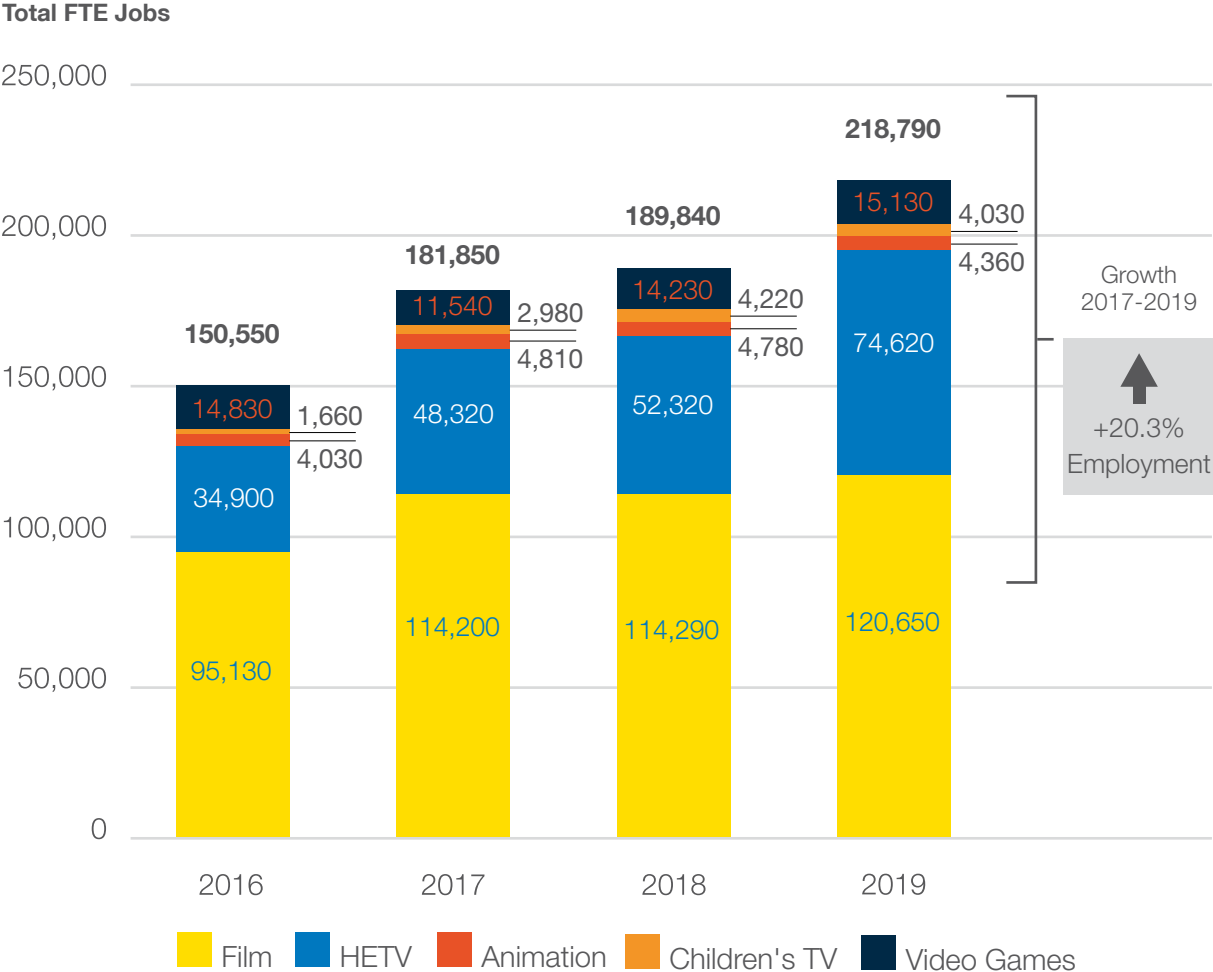
- Screen sector production and development is a strong generator of employment.
- In 2019, the screen sector value chain generated 156,030 full-time equivalent (FTE) jobs (ie from direct, indirect and induced impacts) in comparison to 132,300 in 2017.
- Growth in HETR-related employment has been significant since 2017. A total of 64,310 FTEs were generated in the sector's value chain (ie including direct, indirect and induced impacts) in 2019. This represents an increase of 57.8% from 40,760 FTEs in 2017.
- FTR-related employment in the sector's value chain decreased from 73,000 in 2017 to 68,930 in 2019 which relates to fluctuations in total production expenditure across the study timeframe.
- Employment in the VGTR-related value chain grew by 31.3% between 2017 and 2019, from 11,450 in 2017 to 15,030 in 2019.
- ATR-related employment in the sector's value chain was 3,730 FTEs in 2019. This represented a decline of 9.3% from 2017.
- CTR-related employment increased by 35.2% between 2017 and 2019, from 2,980 FTEs to 4,030.
- Screen sector production and development supported by the tax reliefs in 2019 – ie overall economic contribution including direct, indirect, induced and spillover impacts – generated a total of 218,790 FTEs, an increase of 20.3% on 2017.<sup>14</sup>

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**13.** The BFI's definition of an inward investment production is a feature film, HETV programme or animation programme which is substantially financed and controlled from outside the UK, where the production is attracted to the UK because of script requirements, the UK's infrastructure or UK tax reliefs. Many (but not all) inward productions are UK films, HETV programmes or animation programmes by virtue of their UK cultural content and the fact that they pass the cultural test administered by the BFI Certification Unit on behalf of the Secretary of State for Digital, Culture, Media and Sport. *Film, high-end television and animation programmes production in the UK: full-year 2020*. Ibid

**14.** Indirect and induced impacts include employment, employment compensation in the supply chain, and re-spending of employment income. Spillover impacts include screen tourism, merchandise sales, UK brand promotion and esports in the video games sector

**Figure 2**  
**Growth in overall UK employment supported by the screen sector tax reliefs, 2016-2019 (FTEs, overall economic contribution including direct, indirect, induced and spillover impacts)**

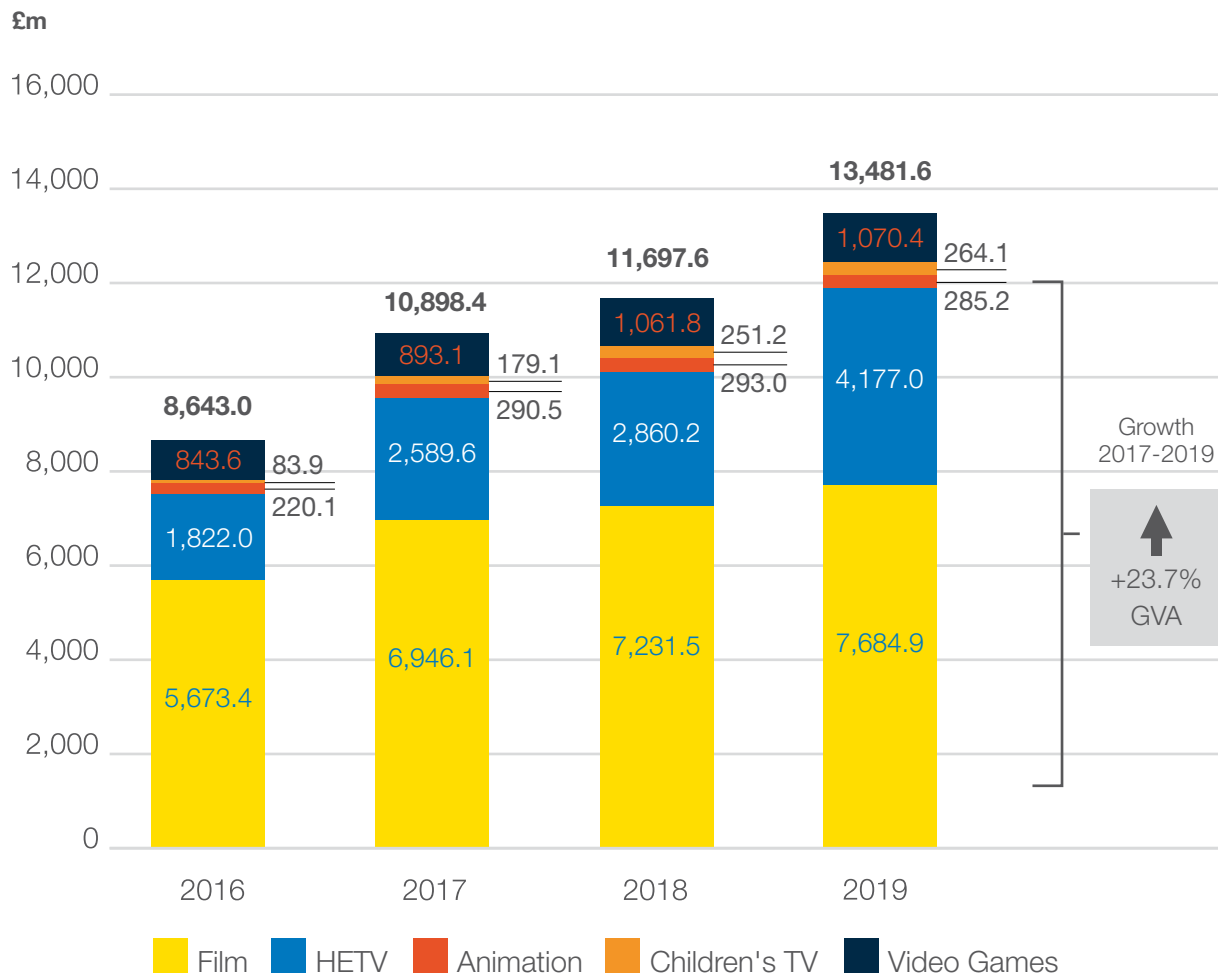


## 2.4. Expanding the economy

- In 2019, the tax relief-supported screen sectors together delivered a total of £13.48 billion in gross value added (GVA) for the UK economy, including direct, indirect, induced and spillover impacts.
- This represents an increase in overall economic contribution from £10.90 billion in GVA in 2017 and £11.70 billion in 2018.
- Together, production spend and related job creation led to the generation of significant tax revenues for HM Government, estimated for all tax relief screen sectors in overall terms to be £3.60 billion in 2019. This represents an increase from £3.11 billion in 2018 and £2.84 billion in 2017.



**Figure 3**  
**Growth in overall GVA supported by the screen sector tax reliefs, 2016-2019 (£m, overall economic contribution including direct, indirect, induced and spillover impacts)**



## 2.5. Delivering productivity

- In terms of productivity, the GVA per FTE generated across the tax relief-supported screen sectors is higher than for the economy as a whole.
- Video games delivered the highest average productivity in 2019, with a GVA per FTE of £121,000.<sup>15</sup>
- In 2019, FTR, HETR and CTR displayed a GVA per FTE of £81,500. Animation production displayed an average GVA per FTE of £84,000.
- The visual effects (VFX) sector delivered GVA per FTE of £89,743 in 2019.
- Meanwhile across the UK economy, average GVA per FTE was an estimated £66,100 in 2019.<sup>16</sup>

<sup>15</sup>. Productivity is an economic measure that assesses how efficient firms, industries or the overall economy is in converting economic inputs (for example, labour, capital, materials) into economic outputs (for example, finished goods or consumer services) for sale to other firms or consumers. Productivity is often assessed in terms of labour productivity. Within economic policy, growth in productivity or labour productivity is a precursor to higher living standards within an economy. In *Screen Business*, labour productivity is measured using GVA per FTE

<sup>16</sup>. GVA per job of £58,377 has been converted to GVA per FTE based on an observed average workweek of 33.1 hours across all employed workers

## 2.6. Providing return on investment

- All of the screen sectors supported by tax reliefs generated RoI when viewed in terms of the additional GVA returned for every £1 of tax relief.
- This was most significant for FTR, which returned £8.30 in 2019 – an increase of 10.5% from £7.51 in 2017.
- In 2019, each pound of HETR granted returned £6.44. This represented a slight decrease from £6.67 in 2017.<sup>17</sup>
- ATR and CTR delivered a GVA RoI of £4.53 and £3.20 in 2019 respectively.
- VGTR delivered a GVA RoI of £1.72 in 2019.<sup>18</sup>
- The wide range in RoI is addressed in the table below.

**Table 1**  
**Annual GVA return on investment, 2016-2019 (£)**

Annual RoI	2016	2017	2018	2019
Film	7.47	7.51	7.96	8.30
High-end television	5.98	6.67	6.72	6.44
Animation	4.41	3.94	3.74	4.53
Children’s television	2.72	2.90	2.65	3.20
Video games	1.83	1.75	1.83	1.72

<sup>17.</sup> As explained in Section 5.8, while total expenditure increased significantly between 2018 and 2019, RoI actually reduced between 2018 and 2019. This is due to the lag between production and the economic impact of screen tourism. It results in reduced RoI because tax relief is being paid out on increased production in the short term, while one of the sources of economic benefit – screen tourism – is not yet appearing as a return in the economic model

<sup>18.</sup> This is not directly comparable with the VGTR RoI reported in the 2018 edition of *Screen Business*. See Note on RoI box

## Note on RoI

All of the tax reliefs displayed positive RoI in terms of additional GVA, but a wide range of return is evident across the sectors. This range can be linked to three key factors:

1. Sectors in which inward investment accounts for a larger share of overall spending will display higher rates of additionality and RoI, since this inward investment spending is more globally mobile than domestic spending on production or video games development. Indeed, the vast majority of FTR and HETV production is inward investment and highly mobile.
2. Inbound screen tourism is another key driver of additional GVA and a higher RoI. Spending in the UK by inbound tourists is highly additional to the UK economy – much like merchandise or services exports. Unlike spending on production or video games development, tourist spending does not trigger a partially offsetting tax relief outlay by HM Treasury. The economic benefits of inbound screen tourism are highest in the film sector because FTR has been in place longer than the other tax reliefs and, therefore, has helped the UK build a stock of screen tourism assets that continue to attract inbound tourists long after the screen content has been first released. In contrast, in the video games sector, esports has the potential to generate inbound tourism, but not at the same scale as the screen tourism associated with films or television programmes. The lack of screen tourism is one reason why the VGTR RoI is lower than that for the other tax reliefs.
3. The methodology used for VGTR for this edition of *Screen Business* differs from the 2018 edition. As part of this, the method for measuring additionality for VGTR was harmonised with the approach used for other tax reliefs in this study. This has led to a lower RoI that is not directly comparable to the previous edition of *Screen Business*.

## 2.7. Supporting innovation

- In addition to generating a range of economic impacts, the UK's screen sectors are also a significant innovation hub.
- With technology and creativity at their core, the screen sectors are at the cutting edge of innovation, in regard to both the products they create and the technology, processes and skills involved in this creation.
- Notably, some creative and technical developments in one screen sector are impacting other screen sectors – for example, virtual production technology. At the confluence of film, video games, animation, visual effects and HETV production, virtual production allows filmmakers to use VFX and computer graphic technologies in real time, to design sequences and provide data and an offline ('previs') version of a final sequence or to combine final pixel computer graphics (CG) with live action as it is being filmed.
- Creative and technical innovations are also benefitting the wider UK economy. StoryFutures, for example, is a programme of research and development (R&D) projects with screen sector businesses west of London that drives innovation in story form into storytelling, business behaviours and audience development.

- The screen sectors create highly unique products. One example from the video games sector is *Dreams* from UK developer Media Molecule. *Dreams* is a video game environment that not only provides visual and immersive gameplay but, through its content creation and sharing mechanisms, is able to develop the creativity of individuals and even offer opportunities and routes into the video games sector.
- A range of innovation case studies are included in Section 14, outlining the scale of development as well as the broad impacts across the UK – from leading VFX and animation company Jellyfish Pictures establishing its first studio outside of London, in Sheffield, to the Future Screens NI initiative and the Screen Media Innovation Lab in Northern Ireland, both part of strategic plans to further increase local economic growth and high-value employment.

## 2.8. Growth in UK film and television studios

- The significant amount of expenditure undertaken in the UK by film and television projects accessing the UK's screen sector tax reliefs has helped to attract investment from private and public investors into film and television production infrastructure – particularly studio facilities.
- While investment in film and television studios has, in the past, mainly centred on the Metro London cluster, recent years have seen some infrastructure planning and development across the UK, with investment in all UK nations and in several of England's regions. While comparatively limited when considered against the scale of development in Metro London, these developments represent notable evolution of the production offer across the UK.
- Regional developments reported include new stages at Belfast Harbour Studios, the opening of First Stage Studios in Edinburgh and new film and television studio facilities in Leeds and Liverpool.<sup>19, 20</sup>
- As part of this study, investment in new studio developments and in the expansion of existing sites since 2017 has been tracked. This includes both purpose-built studios and converted spaces.
- In total, an estimated £131.6 million was spent in building or expanding UK studios over the period of the study between 2017 and 2019. This included £24.6 million of capital invested in the period in building or expanding studios outside of Metro London.
- In addition to tracking capital expenditure between 2017 and 2019, analysis was also undertaken into plans for studio projects or expansions which were announced between 2017 and 2020. This analysis focused on intended projects where planning permission had already been granted. The timeframe was extended to the end of 2020 to reflect the fact that the underlying investment decisions would have been based, in part, on the performance of the UK film and television sector between 2017 and 2019.
- In total, an estimated £785.4 million of potential spend was announced for projects which had received planning permission by the end of 2020. This is in addition to the £131.6 million of actual spend highlighted above.

<sup>19</sup>. *Belfast Harbour seeks to develop six new film and television studios*. Irish Times, 17 February 2020. Accessible at: <https://www.irishtimes.com/business/economy/belfast-harbour-seeks-to-develop-six-new-film-and-television-studios-1.4175621>

<sup>20</sup>. *First Stage Studios to open in Leith*. Film Edinburgh, 13 March 2020. Accessible at: <https://www.filmedinburgh.org/News/First-Stage-Studios-to-open-in-Leith-56570>

### Note on Metro London

While this study uses Eurostat's Nomenclature of Territorial Units for Statistics (NUTS) 1 approach to define England's regions, a new Metro London definition has also been created. Metro London combines Greater London with Hertfordshire (from the East of England) and Buckinghamshire and Surrey (the South East of England) to form a Metro London region that better reflects the geography of the film and television production sector, given that several of the major studio facilities are located in these counties. The Metro London approach overcomes the imbalance that using NUTS 1 definitions around London would have created. Beyond these changes, the study continues to use the NUTS 1 regions including South East, which excludes Buckinghamshire and Surrey.

## 2.9. The impact of the film and high-end television tax reliefs UK-wide

- Recent years have seen increasing amounts of film and HETV production taking place outside of the Metro London hub. This includes *Game of Thrones*, *Line of Duty* and *Ordinary Love* in Northern Ireland, *Outlander*, *Shetland* and *Wild Rose* in Scotland and *Sex Education*, *His Dark Materials* and *Eternal Beauty* in Wales. A broad range of productions have been made in England's regions, including *Peaky Blinders*, *Ackley Bridge*, *The Personal History of David Copperfield* and *How to Build a Girl*.
- This study examines how total UK expenditure supported by FTR and HETR is dispersed across the UK's nations and England's regions.<sup>21, 22</sup>
- Since there is currently no standard approach to measuring UK production spend in this way across the UK nations and England's regions, a new production spend rate card was developed, based on analysis of different production budgets provided by the BFI. This analysis created a set of daily spend averages for different types of projects and budget levels, which were then multiplied by location filming days data, sourced from national and regional agencies.
- A significant amount of the HETV sector's production activity impacts the UK nations and England's regions, with an estimated £1.56 billion in production spend, or around 33% of the UK total, being undertaken outside of Metro London between 2017 and 2019.
- In 2019, HETV production spend generated 33,548 FTE jobs in Metro London and 15,612 throughout the rest of the UK, including direct, indirect and induced effects. Taking into consideration the total impact of the HETV content value chain, including direct, indirect and induced effects, 45,240 FTE jobs were created in Metro London in 2019 and 19,070 throughout the rest of the UK.

<sup>21.</sup> An analysis of the impact of the overall video games sector on the UK nations and England's regions is provided in Section 16.1.7.

<sup>22.</sup> Since a wide range of factors influence a producer's decision to locate a production in a nation or region – including the availability of locations, talent, infrastructure and finance – this should be considered an analysis of how FTR and HETR spend is dispersed, and not an analysis of how these tax reliefs specifically influence production flows around the UK

- In GVA terms, HETV production spend generated £1.67 billion in GVA in Metro London in 2019 and £778.3 million throughout the rest of the UK, including direct, indirect and induced effects. Taking into consideration the total impact of the HETV content value chain, including direct, indirect and induced effects, £2.64 billion in GVA was generated in Metro London in 2019 and £1.04 billion throughout the rest of the UK.
- There is evidence of particular HETV activity between 2017 and 2019 in Northern Ireland, Scotland and Wales, as well as the North West of England, the South West of England, and Yorkshire and the Humber.
- The film sector, in comparison, has been more focused on Metro London – partly because of the region’s developed and long-standing base of high-end studio facilities, supply chain businesses and crew. Nevertheless, outside of Metro London, the analysis shows that film production activity has been taking place in Scotland, the South East of England and Yorkshire and the Humber, as well as other locations. Film spend generates significant impacts across the UK, with around £1.18 billion spent outside Metro London between 2017 and 2019, representing around 19% of the total.
- In 2019, film production spend generated 37,685 FTE jobs in Metro London and 7,775 FTEs throughout the rest of the UK, including direct, indirect and induced effects. Taking into consideration the total impact of the film content value chain, including direct, indirect and induced effects, 49,845 FTE jobs were created in Metro London in 2019 and 19,085 throughout the rest of the UK.
- In GVA terms, film production spend generated £1.96 billion in GVA in Metro London in 2019 and £404.1 million throughout the rest of the UK, including direct, indirect and induced effects. Taking into consideration the total impact of the film content value chain, including direct, indirect and induced effects, £3.74 billion in GVA was generated in Metro London in 2019 and £1.24 billion throughout the rest of the UK.

## 2.10. The ripple effect of film and high-end television production

- In addition to the macro-economic effects modelled by this study, research has also been undertaken into specific micro effects generated by film and HETV productions in the UK.
- Film and HETV production are specialist manufacturing processes which require significant inputs such as workers, equipment, infrastructure and services.
- While some of these inputs will be sourced directly from the screen sector – ie from individuals or vendors who only work in film and HETV production – a significant degree will be hired from other areas of the economy. This is referred to as the ripple effect – ie the micro-economic impacts that each production generates for other business sectors.
- To demonstrate this impact, forensic analysis of three production budgets was undertaken. For each project, production spend was assigned to the business sector into which the money was spent. The focus of the analysis was on below-the-line production expenditure.
- The analysis found that the proportion of production costs across the three projects that was spent in the general economy was between 40% and 60% of the total. Importantly, significant amounts (depending on the size of the production) were spent in sectors which have been particularly affected by the COVID-19 pandemic, such as travel and transport, and hospitality and catering.

- The analysis also provides important insights into the regional impacts that are created by film and HETV production. Indeed, the three projects were all made outside of Metro London: two were filmed predominantly in UK nations outside of England, and one was filmed in an English region. The projects were treated confidentially, and no identifying factors have been included.

## 2.11. Delivering wider benefits

- Spillover impacts – including merchandising, inbound tourism and UK brand promotion – are part of the overall economic contribution delivered by the tax reliefs and are also significant in the revenues and jobs they generate.
- The UK has produced film and television drama with a strong sense of place and culture in recent years. Projects have included *The Secret Garden*, which used multiple filming locations in Yorkshire including Helmsley Walled Gardens, *T2 Trainspotting*, which filmed in Edinburgh, *The Favourite*, which filmed at Hatfield House in Hertfordshire, and the production of *Sex Education* in Wales. Meanwhile, *Game of Thrones* has showcased Northern Ireland's locations to global audiences.
- In 2017, inbound tourists spent an estimated £729.4 million in film-related screen tourism in the UK. This is estimated to have increased to £892.6m in 2019.
- For the video games sector, the impact of esports and video games merchandise has also been included in the overall spillovers.<sup>23</sup>

## 2.12. Notes on economic impact methodology

- A bespoke economic impact model has been developed for this study, reflecting current best practice in economic impact modelling, aligning the analysis with current government evaluation methodology (HM Treasury Green Book).
- The previous edition of *Screen Business*, published by the BFI in 2018, replaced the use of a strictly multiplier-based approach which had previously been used with an input-output (I-O) approach. This ensures that there is temporal consistency between production spend statistics and the economic contribution that this spend generates. It also ensures that input data are not double counted – a risk when multipliers are applied – and also that the base data is validated.
- The approach taken for this study is consistent with the approach used in 2018 across FTR, HETR, ATR and CTR. For VGTR it has been necessary to undertake a revised approach. This is because a significant reporting lag means that it can take several years for actual expenditure figures to consolidate. To calculate impacts, the year-to-year growth in VGTR payments reported by HM Revenue & Customs (HMRC) for 2016/17 to 2018/19 (accrual basis) was applied to the total development spending supported by VGTR in 2016 (as reported by the BFI) to estimate the levels of VGTR-supported development spending in 2017, 2018 and 2019.

<sup>23</sup>. As outlined in Section 6.5.2., the economic benefits of esports are counted as a spillover from the UK video games sector for the purposes of this study on the basis that VGTR contributes to a small extent to the overall strength of the esports ecosystem in the UK. In fact, the modelling used for this analysis found that VGTR titles only accounted for 4.4% of GVA generated by the UK's esports industry in 2019. While esports growth is not directly driven by VGTR, some titles with esports elements have accessed VGTR



- For each sector, the value estimated relates only to tax relief-supported content and does not represent all content produced, licensed, sold, viewed or exhibited in the UK.
- For each sector in receipt of tax relief, economic impact is presented in several ways:
  - Direct economic impact – economic activity (employment and GVA) generated directly throughout the value chain by the element of the sector in receipt of tax relief
  - Total economic impact – the direct impact throughout the value chain, plus indirect and induced impact<sup>24</sup>
  - Overall economic contribution – the impacts of all parts of the value chain plus spillover impacts such as merchandise and screen tourism

## 2.13. Key findings by sector

### 2.13.1. Film

- The UK has a very well-developed offer as a film production hub, combining specialist skills, a strong talent base and established infrastructure. Films made in the UK include both major-budget inward investment projects – such as *No Time To Die* and *The Lion King* – and domestic UK films that achieve wide acclaim. *The Favourite* is an example of the latter.
- FTR has stimulated substantial growth in production expenditure in the UK film sector since its introduction in 2007. Although there are slight fluctuations from year to year triggered by the start of production on high-budget films, spend overall has risen from £849.2 million in 2007 to £2.22 billion in 2017, £2.06 billion in 2018 and £2.02 billion in 2019.<sup>25</sup> These fluctuations between 2017 and 2019 affect related GVA and FTEs.
- In 2017, film sector production in receipt of FTR directly contributed £1.21 billion to the UK's Gross Domestic Product (GDP). In 2018, the contribution was £1.13 billion and in 2019 it was £1.10 billion.
- Films qualifying for FTR are a significant employer, directly generating 33,430 FTE jobs throughout all parts of the value chain in 2017, 31,630 in 2018 and 31,160 in 2019.<sup>26</sup> In GVA terms, films qualifying for FTR delivered £2.86 billion to the UK's Gross Domestic Product (GDP) in 2017 throughout all parts of the value chain, £2.88 billion in 2018 and £2.91 billion in 2019.
- With value chain, indirect and induced impacts, FTR generated 73,000 FTEs in 2017, 68,460 in 2018 and 68,930 FTEs in 2019.
- With value chain, indirect and induced spending, the total economic impact of the tax relief-supported UK film sector in 2017 amounted to £4.93 billion in GVA in 2017, £4.91 billion in 2018 and £4.98 billion in 2019.<sup>27</sup>
- FTR generated strong returns for HM Treasury over 2017-2019. In 2017, each pound of FTR granted yielded an additional £7.51 in GVA for the UK economy. In 2018, this was £7.96 and in 2019 it was £8.30.

<sup>24</sup>. See Section 3.7. for an explanation of the areas of economic impact

<sup>25</sup>. *Film, high-end television and animation programmes production in the UK: full-year 2020*. Ibid. As outlined, the differences in spend across 2017-2019 may not represent decline as such, and may instead relate to the start date of high-budget films in specific years. Totals may also increase in future in relation to the BFI's tracking of production data. Total for 2007 sourced from the BFI RSU

<sup>26</sup>. As noted, changes over the study timeframe reflect underlying production expenditure

<sup>27</sup>. See Section 3.7. for an explanation of the areas of economic impact

## 2.13.2. High-end television

- The UK produces a range of HETV content that attracts significant attention, both within the UK and around the world. Between 2017 and 2019, productions qualifying for HETR included *Game of Thrones*, *The Virtues* and *Quiz*.
- HETV production investment has also increased throughout the UK, contributing to production growth in the UK nations and England's regions. This is evidenced by productions such as *Game of Thrones* in Northern Ireland, *His Dark Materials* in Wales, *Outlander* in Scotland and *Peaky Blinders* in England.
- Since HETR was introduced in 2013, production in the high-end television sector has undergone a very substantial increase, with UK expenditure rising from £392.8 million in 2013 to £1.23 billion in 2017, £1.39 billion in 2018 and £2.08 billion in 2019.<sup>28, 29</sup>
- In 2017, the HETV sector production directly contributed £707.5 million to the UK's GDP. In 2018, the contribution was £802.4 million and in 2019 it was £1.20 billion.
- As a result, HETV production spend generated 18,600 direct FTE jobs throughout all parts of the value chain in 2017, increasing to 19,770 in 2018 and 28,760 in 2019.
- With value chain, indirect and induced impacts, HETV generated 40,760 FTEs in total in 2017, increasing to 43,220 in 2018 and 64,310 FTEs in 2019.
- With value chain, indirect and induced impacts, HETV content generated a total economic impact of £2.24 billion in GVA for the UK in 2017, £2.43 billion in 2018 and £3.67 billion in 2019.
- HETR generated strong returns for HM Treasury over 2017-2019. In 2017, each pound of HETR granted yielded an additional £6.67 in GVA for the UK economy. In 2018, GVA RoI was £6.72 and in 2019 it was £6.44.

## 2.13.3. Video games<sup>30</sup>

- The video games sector is a significant component of the UK screen landscape, with UK-made video games – such as *LEGO Star Wars – The Force Awakens*, *Total War: Warhammer II*, *Yooka-Laylee and the Impossible Lair*, *Monument Valley 2* and *Sackboy: A Big Adventure* – making huge commercial and cultural impacts globally.
- The UK Government introduced VGTR from April 2014. In 2017, expenditure on video games development supported by VGTR was an estimated £700.8 million. In 2018, it was estimated to be £791.0 million and in 2019 it was an estimated £860.4 million.
- In 2017, VGTR-supported video games development directly contributed £567.6 million to the UK's GDP. In 2018, the contribution was £585.3 million and in 2019 it was £559.3 million.
- Throughout all parts of the value chain, VGTR-supported spend directly generated 5,890 FTE jobs in 2017, 6,190 in 2018 and 5,640 in 2019.
- With value chain, indirect and induced impacts, the VGTR-supported sector generated 11,450 FTEs in 2017, 14,130 in 2018 and 15,030 in 2019. In terms of GVA, the sector generated £887.5 million in 2017, £1.06 billion in 2018 and £1.06 billion in 2019.

<sup>28.</sup> 2013 total sourced from the BFI RSU

<sup>29.</sup> *Film, high-end television and animation programmes production in the UK: full-year 2020*. Ibid

<sup>30.</sup> Because of a significant reporting lag in the sector, it has been necessary to revise the methodology used in the previous edition of *Screen Business* for video games. See Section 2.12.

- VGTR-supported development generates strong returns for HM Treasury. In 2017, each pound of VGTR granted leveraged an additional £1.75 in economic activity for the UK economy. In 2018, it was £1.83 and in 2019 it was £1.72.
- The sector is also a driver of cutting-edge innovation. This includes innovations in technology, which can impact widely across other screen sectors. For example, video game engine technology is a key component of virtual film and television production, which enables filmmakers to utilise VFX and computer graphic technologies in real time.<sup>31</sup> Video games also innovate in terms of content, creating new forms of storytelling and story engagement.<sup>32</sup>

#### 2.13.4. Animation programmes

- The UK has a long tradition of producing animation television programmes, with content such as *The Adventures of Paddington* and *Pip and Posy* achieving success.
- ATR was introduced in 2013 for animation programmes intended for broadcast on television or via the internet. Animation feature films are eligible for FTR, with examples including *The Lion King*, *Sherlock Gnomes*, *Early Man* and *Isle of Dogs*.
- Considering only ATR programme production – ie excluding other types of non-eligible animation such as advertising – expenditure was £89.0 million in 2017, £84.5 million in 2018 and £65.3 million in 2019.<sup>33</sup>
- In 2017, ATR programme production directly contributed £60.7 million to the UK's GDP. In 2018, the contribution was £57.6 million and in 2019 it was £44.5 million.
- Throughout all parts of the value chain, ATR-supported spend directly generated 1,850 FTE jobs in 2017, 1,800 in 2018 and 1,460 in 2019.
- With value chain, indirect and induced impacts, ATR-supported spend generated 4,110 FTEs in total in 2017, decreasing to 4,100 in 2018 and 3,730 FTEs in 2019.
- With value chain, indirect and induced impacts, the total economic impact for the component of the UK animation sector supported by tax relief amounted to £258.1 million in GVA in 2017, £261.0 million in 2018 and £254.6 million in GVA in 2019.
- ATR-supported production generates strong returns for HM Treasury. In 2017, each pound of ATR granted leveraged an additional £3.94 in economic activity for the UK economy. In 2018, it was £3.74 and in 2019 it was £4.53.

<sup>31</sup>. See virtual production case study in Section 14.3. While not examined in this study, video games innovations can also impact other sectors such as transport and health

<sup>32</sup>. A case study of Media Molecule's *Dreams* is included in Section 14.5.

<sup>33</sup>. It should be noted that the animation sector's overall size and value are considerably more significant than the element captured in relation to ATR. In 2019, the BFI commissioned the first of two broader animation 'mapping' studies to analyse the sector's value, including animation for corporate and digital marketing and advertising. Most animation companies operate mixed business models: these will be analysed in the second of the two mapping studies, due to be published in 2022

### 2.13.5. Children's television programmes

- From *Horrible Histories* to *The Athena*, the UK has a long tradition of producing high-quality children's television programmes.
- CTR was introduced in 2015 with the aim of encouraging the production of culturally British children's television programmes in the UK.<sup>34</sup> CTR supported £74.1 million of spend in 2017, £117.4 million in 2018 and £86.0 million in 2019.<sup>35</sup>
- In 2017, CTR production directly contributed £43.9 million to the UK's GDP. In 2018, the contribution was £69.5 million and in 2019 it was £50.9 million.
- Throughout all parts of the value chain, CTR-supported spend directly generated 1,330 FTE jobs in 2017, 1,920 in 2018 and 1,610 in 2019.
- With value chain, indirect and induced impacts, the CTR-supported sector generated 2,980 FTEs in 2017, 4,220 in 2018 and 4,030 in 2019.
- With value chain, indirect and induced impacts, the total economic contribution for the component of the UK children's television sector supported by tax relief amounted to £179.1 million in GVA in 2017, £251.2 million in 2018 and £264.1 million in 2019.
- CTR-supported production generates strong returns for HM Treasury. In 2017, each pound of CTR granted leveraged an additional £2.90 in economic activity for the UK economy. In 2018, it was £2.65 and in 2019 it was £3.20.

### 2.13.6. Visual effects<sup>36</sup>

- With its cutting-edge digital skills, the VFX sector is an important component of the UK screen ecosystem. VFX is highly impactful across both film and HETV production, and UK VFX studios such as DNEG, Milk, Framstore and BlueBolt have contributed to such innovative and award-winning productions as *Tenet*, *Chernobyl* and *His Dark Materials*.
- While VFX is not the recipient of a standalone tax relief, the value of VFX as a separate element of the production sector has been analysed due to its importance as part of the production process. Some projects accessing tax relief may only undertake VFX work in the UK; FTR and HETR both require at least 10% of a project's core expenditure to be UK spend and VFX spend alone may reach this level on some projects.
- In 2017, an estimated £301.3 million was spent on VFX services for FTR, HETR, ATR and CTR projects in the UK. This increased to £361.9 million in 2018 and £363.5 million in 2019. FTR-related production was the largest proportion of this over 2017-2019.
- In 2017, the direct economic impact of VFX production within the tax reliefs was £251.9 million. In 2018, it was £302.6 million and in 2019 it was £303.9 million.
- As a result of this activity, the VFX sector generated 9,440 FTE jobs throughout all parts of the value chain in 2017, 11,570 in 2018 and 11,840 in 2019.

<sup>34</sup>. *Children's television tax relief*. HM Revenue & Customs, 10 December 2014. Accessible at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/385183/TIIN\\_2020.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/385183/TIIN_2020.pdf)

<sup>35</sup>. Source: The BFI RSU

<sup>36</sup>. Analysis of the VFX sector represents a restatement of value outlined above with a focus on VFX production. It should not be added to the impacts of the individual tax reliefs. The importance of VFX within the screen sector tax reliefs is outlined in this section. As the analysis has not included areas of production undertaken without relief, such as commercials which benefit from UK skills and creativity in this area, the value of the whole UK VFX sector has also been assessed and is included in Appendix 2

- With value chain, indirect and induced spending, and spillover impacts, the sector generated 14,630 FTEs in 2017, 19,030 in 2018 and 20,050 in 2019.
- Including value chain and spillover impacts, the overall economic contribution across the screen sector value chain attributable to VFX was £903.6 million in GVA in 2017, £1.21 billion in 2018 and £1.29 billion in 2019.

## 2.14. Global comparison of production incentives for film, television and video games

- The UK operates in a highly competitive global production and development market, and its screen sector tax reliefs are among around 100 automatic incentives on offer around the world.
- The UK competes with major global production centres for film, television and video games such as California and Georgia in the US, several Canadian provinces (including British Columbia, Quebec and Ontario) and Australia. In Europe, it also competes with countries such as France, Germany, Hungary and Ireland.
- As in the UK, many of these jurisdictions offer well-established, stable incentives for production and development, as well as strong workforce and infrastructure offers.
- In other jurisdictions, incentives are being revised to encourage specific types of production or development activity.
- Canada offers a range of automatic incentives, administered at both federal and provincial levels, for film and television. Individually, these incentives can appear relatively low in terms of headline percentage, but productions may 'stack' provincial and federal incentives – making Canada's incentives highly competitive globally.
- As with film, Canada offers a number of provincial incentives for video games development in British Columbia, Manitoba, Ontario, Quebec, Nova Scotia, Prince Edward Island and Newfoundland and Labrador. As a result, Canada is one of the largest video games development hubs in the world.
- In France, live-action productions which undertake a substantial portion of their VFX work in the country may be eligible for an incentive worth 40% on all eligible French expenditure (not just any relevant VFX expenditure), instead of the standard 30% incentive.
- Also in France, the video games incentive was increased from 20% to 30% in 2017, and the maximum annual threshold per company was increased to €6 million.
- In Ireland, a temporary Regional Uplift was introduced in 2018 for film and television, animation and creative documentary productions substantially produced outside Dublin/ Wicklow and Cork City and County. Eligible productions benefit from a 5% uplift on regional expenditure, subject to specific training related requirements. The 5% uplift applies in 2020 and 2021, then tapers off to 3% in 2022 and 2% in 2023 (its final year).

- Australia offers two major incentives for international productions, the automatic Location Offset (worth 16.5%) and the Location Incentive (worth 13.5%). The two incentives can be used in conjunction with each other, resulting in an incentive worth 30% of eligible expenditure in Australia. The country also offers the Producer Offset for domestic productions with significant Australian content, worth 40% for theatrically released feature films and 30% for all other eligible formats.
- For post-production, digital, and visual effects (PDV) work, productions can access a refundable tax credit worth 30% of qualifying expenditure in those areas. The PDV incentive can be combined with state and territory government incentives in New South Wales, South Australia, Western Australia, Victoria and Queensland.
- While Australia does not offer a video games incentive at time of writing this study, in May 2021 the Australian Government committed to a 30% refundable tax offset in the 2021-22 Federal budget to be offered from 1 July 2022.

## 2.15. Findings as a benchmark in the COVID-19 era

- The timeframe of this study – 2017-2019 – is of course just before the beginning of the global COVID-19 pandemic, which has caused unprecedented disruption to the screen sectors across the world.
- According to the BFI, almost all UK film and HETV productions were suspended or postponed by the end of the first quarter of 2020. The combined total spend on film and HETV production in the UK was £918 million lower for the first half of 2020 than for the first half of 2019.<sup>37</sup>
- In June 2020, COVID-19 health and safety guidelines were brought in as one of a number of priorities to support the industry into recovery, led by the BFI Screen Sector Task Force (SSTF) and working with the British Film Commission (BFC), Pact, broadcasters and the UK Screen Alliance.
- In July 2020, the UK Government also announced the launch of a significant £500 million Film and TV Production Restart Scheme to assist UK film and television productions struggling to get insurance for COVID-19 related costs.<sup>38</sup>
- Demonstrating the resilience of the sectors, and the high degree of investor interest, the BFI has reported that the combined spend on film and HETV production in the UK in the first half of 2021 was, at £3.6 billion, the highest combined film and HETV reported in the quarterly official statistics release on record.<sup>39, 40</sup>

<sup>37</sup>. *Film and high-end television production in the UK, January-June (H1) 2020*. The BFI RSU, 30 July 2020. Accessible at: <https://www2.bfi.org.uk/sites/bfi.org.uk/files/downloads/bfi-film-other-screen-sectors-production-uk-h1-2020.pdf>

<sup>38</sup>. *Guidance – Film & TV Production Restart Scheme*. Department for Digital, Culture, Media & Sport and HM Treasury, 17 September 2020. Accessible at: <https://www.gov.uk/government/publications/film-tv-production-restart-scheme>

<sup>39</sup>. *Film, and high-end television production in the UK; January-June (H1) 2021*. The BFI RSU, 29 July 2021. Accessible at: <https://core-cms.bfi.org.uk/media/11588/download>

<sup>40</sup>. The global value of screen production and its potential role in COVID-19 economic recovery was examined in *Global Screen Production – The Impact of Film and Television on Economic Recovery from COVID-19*. Ibid

- In the video games sector, research from Ukie undertaken in 2020 shows that overall productivity in the industry remained high through the pandemic, with businesses working at 80% productivity during the worst of the COVID-19 crisis. The research also showed that 80% of video games businesses were making no plans to reduce headcount in response to the crisis.<sup>41</sup>
- Against this backdrop, the data and analysis in this edition of *Screen Business* show the development of the screen sectors in receipt of tax relief in the pre-COVID-19 era. For policymakers, the study provides clear evidence of the impacts generated by the reliefs. For future analyses, the study will provide the baseline for further understanding of the impacts of COVID-19 on the UK screen sectors – and the role these sectors are able to play in driving economic growth.

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<sup>41</sup>. *Playing On – The UK games and interactive entertainment industry during the COVID-19 pandemic*. Ukie, 22 July 2020. Accessible at: <https://ukie.org.uk/news/ukie-s-playing-on-report-highlights-the-resilience-of-uk-games-industry-during-covid-19>



## Key economic findings, 2016-2019

Tax relief-supported impact													
		FTR				HETR				VGTR <sup>6</sup>			
		2016	2017	2018	2019	2016	2017	2018	2019	2016	2017	2018	2019
Direct economic impact <sup>1</sup>	Employment (FTEs)	29,560	33,430	31,630	31,160	13,950	18,600	19,770	28,760	7,410	5,890	6,190	5,640
	GVA (£m)	2,443.1	2,862.3	2,877.7	2,912.5	817.3	1,116.8	1,184.3	1,798.7	469.3	607.5	655.2	592.7
	Taxation (£m)	628.6	709.4	736.7	729.1	252.3	405.9	451.4	668.0	165.9	139.8	160.1	143.9
Total economic impact <sup>2</sup>	Employment (FTEs)	63,180	73,000	68,460	68,930	28,910	40,760	43,220	64,310	14,680	11,450	14,130	15,030
	GVA (£m)	4,162.9	4,929.6	4,906.0	4,975.5	1,553.9	2,242.9	2,431.5	3,674.3	834.5	887.5	1,055.4	1,064.2
	Taxation (£m)	994.5	1,181.6	1,202.1	1,199.9	413.3	667.7	743.3	1,105.0	236.2	196.3	238.9	246.3
Overall economic contribution <sup>3</sup>	Employment (FTEs)	95,130	114,200	114,290	120,650	34,900	48,320	52,320	74,620	14,830	11,540	14,230	15,130
	GVA (£m)	5,673.4	6,946.1	7,231.5	7,684.9	1,822.0	2,589.6	2,860.2	4,177.0	843.6	893.1	1,061.8	1,070.4
	Taxation (£m)	1,702.2	1,702.2	1,801.4	1,892.9	497.6	776.7	878.1	1,263.1	238.3	197.6	240.3	247.7
Return on Investment <sup>4</sup>	Economic (GVA per £ of tax relief)	7.47	7.51	7.96	8.30	5.98	6.67	6.72	6.44	1.83	1.75	1.83	1.72
	FTEs per £m tax relief	147	147	148	152	125	136	132	126	32	22	24	4

Tax relief-supported impact													
		ATR				CTR <sup>7</sup>				Total			
		2016	2017	2018	2019	2016	2017	2018	2019	2016	2017	2018	2019
Direct economic impact <sup>1</sup>	Employment (FTEs)	1,780	1,850	1,800	1,460	860	1,330	1,920	1,610	53,560	61,100	61,310	68,630
	GVA (£m)	112.1	140.0	135.2	130.6	43.8	92.3	127.1	132.2	3,885.6	4,818.8	4,979.5	5,566.7
	Taxation (£m)	43.6	72.5	77.1	74.2	13.4	35.4	51.8	56.2	1,103.8	1,363.0	1,477.2	1,671.4
Total economic impact <sup>2</sup>	Employment (FTEs)	3,290	4,110	4,100	3,730	1,660	2,980	4,220	4,030	111,720	132,300	134,130	156,030
	GVA (£m)	186.4	258.1	261.0	254.6	83.9	179.1	251.2	264.1	6,821.7	8,497.2	8,905.1	10,232.8
	Taxation (£m)	58.8	98.2	104.7	101.3	21.6	53.5	77.7	84.0	1,724.4	2,197.3	2,366.8	2,736.4
Overall economic contribution <sup>3</sup>	Employment (FTEs)	4,030	4,810	4,780	4,360	1,660	2,980	4,220	4,030	150,550	181,850	189,840	218,790
	GVA (£m)	220.1	290.5	293.0	285.2	83.9	179.1	251.2	264.1	8,643.0	10,898.4	11,697.6	13,481.6
	Taxation (£m)	68.3	107.6	114.0	110.2	21.6	53.5	77.7	84.0	2,211.0	2,837.6	3,111.6	3,597.9
Return on Investment <sup>4</sup>	Economic (GVA per £ of tax relief)	4.41	3.94	3.74	4.53	2.72	2.90	2.65	3.20	--	--	--	--
	FTEs per £m tax relief	86	70	66	75	55	54	49	55	--	--	--	--

Notes:

1. Includes direct impact of the production sub-sector and other value chain sub-sectors
  2. Includes direct and multiplier effects (ie indirect and induced impacts) for all value chain sub-sectors
  3. Equal to sum of direct, indirect and induced impacts and spillover effects
  4. Return on investment (RoI) data relate to returns per £ (GVA) or £m (FTEs) of tax relief granted; based on **additional** total economic impact + **additional tourism spillovers**
  5. Full economic impact of the UK video games sector – including elements not applying or eligible for VGTR – can be found in Appendix 1. This shows a total economic contribution, including spillovers, of 73,370 FTEs in 2019, with a GVA contribution of £4.63 billion
  6. See note on RoI and VGTR in Section 2.6. for context
  7. As no spillover value has been included for CTR, the overall economic contribution is the same as total economic impact across the value chain
- GVA refers to gross value added; FTEs refers to full-time equivalent jobs; RoI not applicable for total column; no spillover effects have been estimated for CTR due to a lack of data

# INTRODUCTION

3

### 3.1. Study scope

This study represents an update and development of previous economic analyses published by the British Film Institute (BFI) and, previously, the UK Film Council.

While the previous edition of *Screen Business* assessed the economic impacts of the screen sector tax reliefs in 2016, this study looks at three years – 2017, 2018 and 2019. It also provides updates to previously published estimates of the economic contributions in 2016, where the underlying statistics have changed.<sup>42</sup>

The findings demonstrate how the incentives contributed to the growth of the screen sectors in the UK, which is held in high regard globally as a centre of technological innovation, creativity and excellence in talent, skills and infrastructure.

### 3.2. Background

The 2017-2019 period has seen the UK screen sectors further strengthening their position as a significant economic and creative force. In spend terms, over £5.1 billion of qualifying expenditures were supported by the screen sector tax reliefs in 2019. This represented an increase of 18.4% from 2017.

**Table 2**  
**Total spend in the UK supported by the screen sector tax reliefs, 2016-2019 (£m)**

	2016	2017	2018	2019
Film Tax Relief	1,871.9	2,220.9	2,061.3	2,015.8
High-End Television Tax Relief	977.2	1,226.1	1,390.6	2,078.3
Animation Tax Relief	114.7	89.0	84.5	65.3
Children’s Television Tax Relief	65.8	74.1	117.4	86.0
Video Games Tax Relief	624.5	700.8	791.0	860.4
<b>Total</b>	<b>3,654.1</b>	<b>4,310.9</b>	<b>4,444.8</b>	<b>5,105.8</b>

Source: The BFI, HMRC  
 Note:  
 VGTR spend estimated for 2017-2019

The UK Government’s ongoing support of the screen sectors through public policy initiatives – particularly the screen sector tax reliefs – is essential in driving these expenditures and associated economic impacts.

<sup>42</sup>. 2016 data have been revised from the previous edition of *Screen Business* to account for updates in projects tracked by the BFI since publication

### 3.3. Aims of the study

As a key reference document, *Screen Business* provides independent and robust analysis of the screen sector tax reliefs for the UK's film, high-end television (HETV), animation programmes, children's television programmes and video games sectors. These are Film Tax Relief (FTR), HETV Tax Relief (HETR), Video Games Tax Relief (VGTR), Children's Television Tax Relief (CTR) and Animation Tax Relief (ATR).

The study also captures the economic contribution of the total scope of the visual effects (VFX) and video games sectors beyond tax relief-supported screen content.

The study aims to provide a comprehensive and clear analysis related to the impact generated for the UK economy by these tax reliefs, providing stakeholders and policymakers with a detailed evidence base.

For most sectors, it provides continuity with the methodology and time series data presented in the 2018 edition of *Screen Business – How screen sector tax reliefs power economic growth across the UK* and is consistent with HM Treasury Green Book guidelines.<sup>43</sup> One exception in terms of continuity is the video games sector. Because of a significant reporting lag, it can take several years for actual expenditure figures to consolidate and an estimation of spend was therefore undertaken.<sup>44</sup>

This edition of *Screen Business* also aims to broaden the evidence base provided by previous studies to look at key economic impacts of production expenditure on film and HETV on the UK nations and England's regions. This and other key updates are outlined in Section 3.4.

As outlined in Section 2.15., the study also provides a benchmark of the economic impacts generated by the UK's screen sectors prior to the COVID-19 pandemic.

### 3.4. Differences from previous studies

The previous edition of *Screen Business*, published in October 2018, provided a refreshed approach to calculating the economic contribution of the UK's screen sector tax reliefs.

A new methodology was developed which better reflected economic best practices and the structures of the sectors and sub-sectors being analysed. The new methodology also:

- Incorporated the results of specific empirical research on job creation commissioned by the BFI to generate revised estimates of the number of direct full-time equivalents (FTEs) generated by film, HETV and VFX production
- Replaced a multiplier-based approach with a bespoke economic impact model based on the input-output (I-O) tables published by the Office for National Statistics (ONS), in order to estimate indirect and induced economic impacts
- Used primary research to establish the rate of additionality for the various tax reliefs

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<sup>43.</sup> The 2018 edition of *Screen Business* was the first analysis of all five sectors

<sup>44.</sup> To calculate impacts, the year-to-year growth in VGTR payments reported by HMRC for 2016/17 to 2018/19 (accrual basis) was applied to the total development spending supported by VGTR in 2016 (as reported by the BFI) to estimate the levels of VGTR-supported development spending in 2017, 2018 and 2019

The 2018 edition of *Screen Business* also included, for the first time, an analysis of the economic impact of animation programmes, children’s television and video games, as well as a separate analysis of the impacts of the tax reliefs on the VFX sector. While not a direct recipient of a specific tax relief structure, this sector is a key component of the production value chain.

In methodological terms, this study is generally comparable with the 2018 edition of *Screen Business*, but contains a number of updates and developments. These include:

- A revised approach to estimating video games development spend in 2017, 2018 and 2019, as previously outlined
- A broader analysis of the contribution of the VFX sector, which incorporates the results of an industry-mapping exercise
- A deeper focus on evidence from the UK nations and England’s regions of the sectors’ production expenditure and economic impact. This reflects the increasing amount of activity taking place outside of the South East of England, and aligns with the UK Government’s focus on ‘levelling up’
- To estimate the audience and economic shares of screen content supported by HETR, ATR and CTR, a new approach was adopted based on the BFI’s own analysis of the Broadcasters Audience Research Board (BARB) audience data. This replaced the analysis conducted by an outside organisation, Attentional, for the 2018 edition of *Screen Business*
- A more robust analysis of investment in film and television studio space in the UK
- Comparable analysis of key incentives in other jurisdictions. The UK operates in a highly competitive global production market, and its screen sector tax reliefs are among around 100 automatic incentives on offer. This study therefore includes, for the first time, analysis of a number of comparable systems. These are outlined in Section 12

### 3.5. Definitions of the UK screen sectors

Most statistics on the UK screen sectors – whether from the ONS, the BFI, the Department for Digital, Culture, Media & Sport (DCMS), Ofcom, or other agencies – quantify the total impact or value of the sectors they describe. These data do not consider country of origin – for example, the ONS data on the cinema exhibition sector, including turnover, gross value added (GVA), and employment, includes the screening of films originating from around the world, including the UK.

This study has focused on the economic contribution generated by screen content supported by the various UK tax reliefs.<sup>45, 46</sup>

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**45.** This model is slightly altered for the video games sector. Because VGTR-supported video games represent a minority of current activity in the sector, analysis has been undertaken to estimate the total economic contribution of the sector. This is presented in Appendix 1

**46.** It should be noted that the animation sector’s overall size and value are considerably more significant than the element captured in relation to ATR. In 2019, the BFI commissioned the first of two broader animation ‘mapping’ studies to analyse the sector’s value, including animation for corporate and digital marketing and advertising. Most animation companies operate mixed business models – these will be analysed in the second of the two mapping studies, due to be published in 2022

### 3.5.1. Film

Because only a limited number of films produced in the UK are made without qualifying for FTR, there is little difference between the broader production sub-sector and the component supported by FTR. At other points in the value chain the economic role of non-UK content becomes more significant – for example, in the distribution sub-sector, where significant numbers of films not qualifying for FTR will be released and generate impact.

To specifically analyse the contribution of tax relief-supported films only within the distribution, exhibition, television broadcasting and video platforms sub-sectors, it has been necessary to develop an estimation approach. To achieve this, the market or audience share of UK-made productions – the vast majority of which are supported by tax relief – in the cinema exhibition, television broadcasting and video platform sub-sectors has been used to estimate the contribution attributable to screen content supported by tax relief.

### 3.5.2. High-end television

A similar approach has been taken for HETV although, because HETV is part of a larger television market, sector-wide statistics relating to the television industry as a whole are less relevant than they are for film (where there is a strong correlation between FTR-supported production and the total industry). As a result, the BFI's published statistics on HETR-supported expenditure in the UK have been used as the basis for estimating economic contribution.

To specifically analyse the economic contribution of HETV in other parts of the value chain – including television broadcasting and digital video platforms – the contribution of HETV programming to UK broadcasters' revenue was estimated.<sup>47</sup> As with FTR-supported films, the contribution of HETR-supported programming was estimated by either directly examining the audience share garnered by the programming on UK-based TV broadcasters or by modelling its audience share on other platforms. As a result, the methodology used for HETV programming is comparable to the approach applied to the film sector.

### 3.5.3. Video games

In analysing the impact of the UK video games sector as a whole, and VGTR as a part of this, a company-based model of the UK video games sector was built. This used Ukie's UK Games Map, specifically examining games development companies and publishers within this and acquiring granular data on the GVA and employment of individual companies within the sample.<sup>48</sup> VGTR spend was further separated from this using data from the BFI to analyse the tax relief within the context of the sector as a whole.

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<sup>47</sup>. For further details on this approach, see sections 5.3.2. and 5.3.4.

<sup>48</sup>. The UK Games Map is accessible at: <https://gamesmap.uk/>

To identify the impact of UK-developed games within the value chain, Ukie conducted an analysis of the market shares (in terms of units sold and revenue) accounted for by UK-made titles in the physical and digital consumer markets in the 2016-2019 period.<sup>49</sup> The results of this market-share analysis were used to apportion the economic activity within the domestic publishing and consumer retail sub-sectors to estimate the value of UK content through these.

### 3.5.4. Animation programmes

As with HETV, analysis of the animation programme sector focused only on programming that qualified for tax relief – ie ATR programmes. The estimates of the economic contribution from the production of ATR programmes were based on expenditure data published by the BFI. A survey of animation companies was used to gather additional information on the licensing and other ancillary revenue generated by this ATR-supported content.

To specifically analyse the economic contribution of ATR programmes in other areas of the value chain, including television broadcasting and video platforms, estimates of employment and GVA linked to the audience share of productions in receipt of ATR were developed.<sup>50</sup>

### 3.5.5. Children’s television programmes

To measure the impact of children’s television programmes, the model used for HETV was followed. Through this, production spend data published by the BFI were analysed using sector statistics on production spend and ONS I-O tables to generate direct impact data.<sup>51</sup> These data were then passed through the value chain, using estimates of employment and GVA linked to the audience share of the programmes in receipt of the tax relief.

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<sup>49.</sup> See Sections 6.3.2. to 6.3.4. for details

<sup>50.</sup> Further details on this approach can be found in Sections 7.3.2. to 7.3.4.

<sup>51.</sup> For further details on this approach, see Section 8.3.

## 3.6. UK tax reliefs and the definition of qualifying projects

To qualify for the UK's screen sector tax reliefs, all films, HETV programmes, animation programmes, children's television programmes and video games must be certified as British through a sector-specific cultural test, or, for the film and television tax reliefs, qualify as an official co-production through the use of one of the UK's bilateral co-production treaties or the European Convention on Cinematographic Co-production.<sup>52, 53</sup> The cultural tests and co-production treaties are administered by the BFI.

Under the sector-specific cultural tests, projects can apply for interim certification at any point during the production or development process – and can claim relief during production on costs incurred to date using the interim certificate – but either way a final certification application must be made following completion of the project.<sup>54</sup>

For film or television productions using official co-production treaties, certification as a co-production is sufficient to access the tax relief without applying for the cultural test; an application must be submitted for an interim certificate at the pre-production stage and must also be made for final certification once the project is completed. Official co-production projects are jointly approved by each country's competent authority. Non-treaty co-productions, however, are still required to apply for the cultural test.

## 3.7. The areas of economic impact

There are a variety of areas through which the production or development of screen content has an impact on the UK economy. In accordance with other economic contribution analyses, there are four key areas which have been applied to the screen sectors throughout this study.

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<sup>52.</sup> More information on qualifying for the reliefs can be accessed at: <http://www.bfi.org.uk/supporting-uk-film/british-certification-tax-relief>

<sup>53.</sup> Not all bilateral co-production treaties allow television co-production, and the European Convention on Cinematographic Co-production applies only to works intended to be shown in cinemas

For further details on co-production treaties to which the UK is a party, and certification as an official co-production, see: [bfi.org.uk/film-industry/british-certification-tax-relief/co-production](http://bfi.org.uk/film-industry/british-certification-tax-relief/co-production)

<sup>54.</sup> In this instance, 'development process' refers to development in the video games sector; 'development' as it occurs in the other screen sectors is not an eligible cost for the tax reliefs



**Table 3**  
**Summary of areas of economic impact**

<p><b>Direct impact</b></p>	<p>This refers to the economic activity (ie employment and GVA) generated <b>directly</b> within the particular screen sector.</p> <p>In the context of this study, it refers to economic activity generated directly in the value chain. For example, it includes employment, employment compensation and GVA earned at companies in the sub-sectors that comprise the screen sector value chains. This element of the analysis is conducted with reference to the component of each screen sector supported by tax relief.</p>
<p><b>Indirect impact</b></p>	<p>When companies in the screen sector value chain procure supplies and services from outside the value chain, they generate an indirect economic impact.</p> <p>Procurement spending by screen sector companies raises income and employment in other sectors. For example, when the screen sector purchases catering or accounting services, it generates an indirect economic impact for these businesses.</p>
<p><b>Induced impact</b></p>	<p>The employment generated at both the direct and indirect impact stages raises these employees' household income as they earn wages and salaries; while these households will save part of their additional income, they will also spend it on goods and services in the UK. This spending and subsequent re-spending within the UK economy further increases activity across the broader economy.</p>
<p><b>Spillover impacts</b></p>	<p>Some sectors can also have impacts beyond the screen sector value chain and their own supply chains. For the screen sectors, the most notable, specific and discrete spillover impacts are often in the form of tourism or merchandise sales.</p> <p>In the case of tourism, attractions, hotels and restaurants experience higher income and employment on account of tourism visits stimulated by the desire to visit filming locations or settings.</p> <p>In addition, broader impacts can also be generated by the outputs of the screen sectors, which can promote positive conceptions of UK culture and enhanced perceptions of the UK brand.</p>

# THE FILM SECTOR

4

## 4.1. Context and key findings

The UK has a well-developed offer as a film production hub, combining specialist skills, a strong talent base and established infrastructure. Films made in the UK include both major-budget inward investment projects – such as *Avengers: Infinity War*, *Mission: Impossible – Fallout* and *Star Wars: The Rise Of Skywalker* – and domestic UK films that achieve wide acclaim. Examples of the latter include *Darkest Hour* and *Blue Story*. UK-made animated feature films include *Early Man* and *Isle of Dogs*.

Film production also occurs across the UK. This includes films such as *Ordinary Love* in Northern Ireland, *Wild Rose* in Scotland and *Six Minutes to Midnight* in Wales. Productions taking place in England's regions include *The Personal History of David Copperfield* and *How To Build A Girl*.

Film Tax Relief (FTR) has stimulated substantial growth in production expenditure in the UK film sector since its introduction in 2007. Spend has risen from £849.2 million in 2007 to £2.22 billion in 2017, £2.06 billion in 2018 and £2.02 billion in 2019<sup>55, 56</sup>

Films qualifying for FTR are a significant employer, directly generating 31,160 full-time equivalent (FTE) jobs throughout all parts of the value chain and directly contributing £2.91 billion to the UK's Gross Domestic Product (GDP) in 2019.<sup>57</sup> The film sector generates a significant trade surplus for the UK and is highly export-driven.

With value chain, indirect and induced spending, the total economic contribution of the UK film sector supported by tax relief in 2019 amounted to £4.98 billion in gross value added (GVA).<sup>58</sup> This economic activity supported 68,930 FTEs.

There are also major spillover benefits contributed by FTR to the UK economy. For example, some films can generate domestic and international tourism to locations and settings, or to specific visitor attractions such as Warner Bros. Studio Tour London – The Making of Harry Potter. Films can also generate soft power and national branding impacts – underlined by the utilisation of UK film content in the UK Government's GREAT campaign to promote the UK.<sup>59</sup>

Including tourism spillovers, FTR generated strong returns for HM Treasury over 2017-2019. In 2019, each pound granted yielded an additional £8.30 in GVA for the UK economy.

### Note

2016 data have been revised from the previous edition of *Screen Business* to account for updates in projects tracked by the BFI since publication. For example, when *Screen Business* was published in 2018, total film expenditure was reported by the BFI to be £1.72 billion. This total has since been revised to £1.87 billion. Analysis in this chapter is based on projects certified to the end of 2020 only, so data may change in time as new applications for the years in question are submitted.

<sup>55.</sup> 2007 total sourced from the BFI Research and Statistics Unit (RSU)

<sup>56.</sup> *Film, high-end television and animation programmes production in the UK: full-year 2020*. Ibid

<sup>57.</sup> See Section 4.3. for full analysis of direct impact

<sup>58.</sup> See Section 3.7. for an explanation of the areas of economic impact

<sup>59.</sup> As noted by a British Council study: 'In a multipolar, hyperconnected world, a country's power is increasingly measured by its ability to inspire and attract citizens of other nations to take an interest in its national story, enjoy its passions, and ultimately respect its values, ideas and aspirations.' *As Others See Us*. British Council, 2014. Accessible at: <https://www.britishcouncil.org/sites/default/files/as-others-see-us-report.pdf>

## 4.2. Value chain overview

A complex international ecosystem, the film sector has been undergoing a period of unprecedented change in recent years as digital technology continues to transform the production, distribution and consumption of films.

As outlined in the previous edition of *Screen Business*, digital video platforms – which include video-on-demand (VoD), subscription video-on-demand (SVoD) and transactional video-on-demand (TVoD) – have radically altered value within the sector.<sup>60</sup> This technology has created new revenue streams and digital distribution opportunities, but also added complexities and challenges, particularly for the independent film model.

To simplify this complexity, the traditional value chain components of production, distribution and exhibition have been used to assess the economic impact of the film sector (Figure 4). Although not all films are exploited this way, it remains the most suitable approach – not least because qualification for FTR requires films to be intended for theatrical release.

Production is the stage of the value chain in which films are created. For this study, the production component of the value chain is defined as including pre-production, principal photography, visual effects (VFX), music recording and audio and picture post-production.

The distribution stage for independent film generally involves companies acquiring rights to sell the intellectual property (IP) held by the production company, and planning how to market the film. In some cases, sales agents will act as a bridge between producers and distributors, taking an expert role in selling the product internationally on a territory-by-territory basis. In comparison, the US studio model generally sees the studio producing and distributing their films globally.

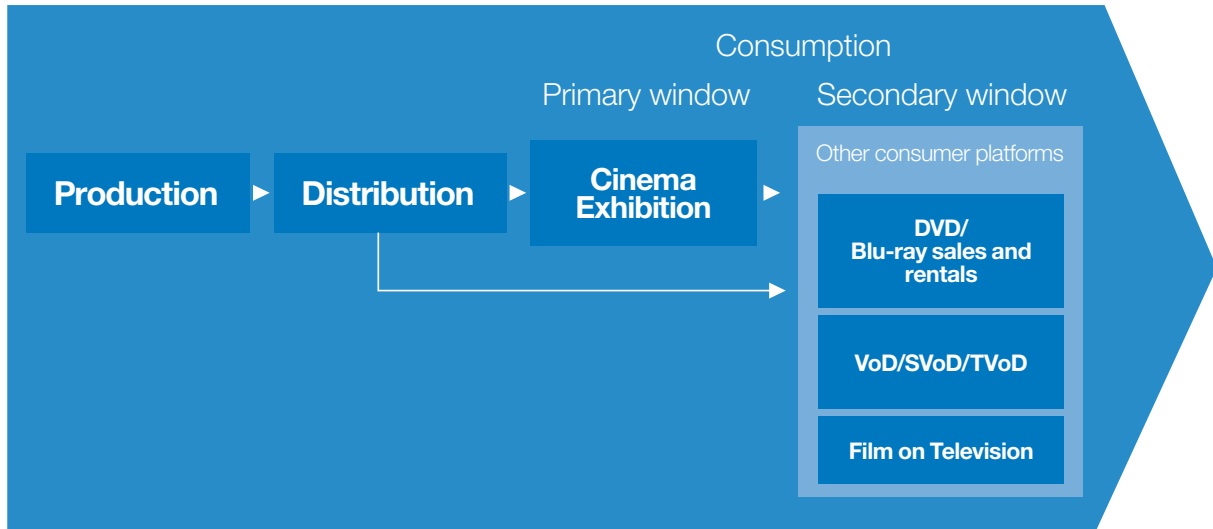
Cinema exhibition is the traditional primary release window for films, although recent years have seen disruption to this model as distributors, including digital video platforms, opt for alternative release strategies. These can include straight-to-broadcast or direct digital video release, or a day-and-date strategy through which films are released on multiple platforms – including theatrical, digital video and television – simultaneously.

Under the traditional theatrical model, the cinema exhibition window is followed by secondary release windows, including DVD/Blu-ray sales and rentals, digital video sales, rental and subscription, and free-to-air and paid-for television broadcast. The impacts outlined below account for these windows.

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<sup>60</sup>. *Screen Business*. Olsberg•SPI with Nordicity, 2018. Accessible at: <https://www.bfi.org.uk/industry-data-insights/reports/uk-screen-sector-economy>

**Figure 4**  
**Film sector value chain**



## 4.3. Direct impact

### 4.3.1. Production

The production sub-sector is the largest economic contributor in the film value chain. UK production spend, and the employment, compensation of employment (CoE) and GVA generated, are outlined in this section.

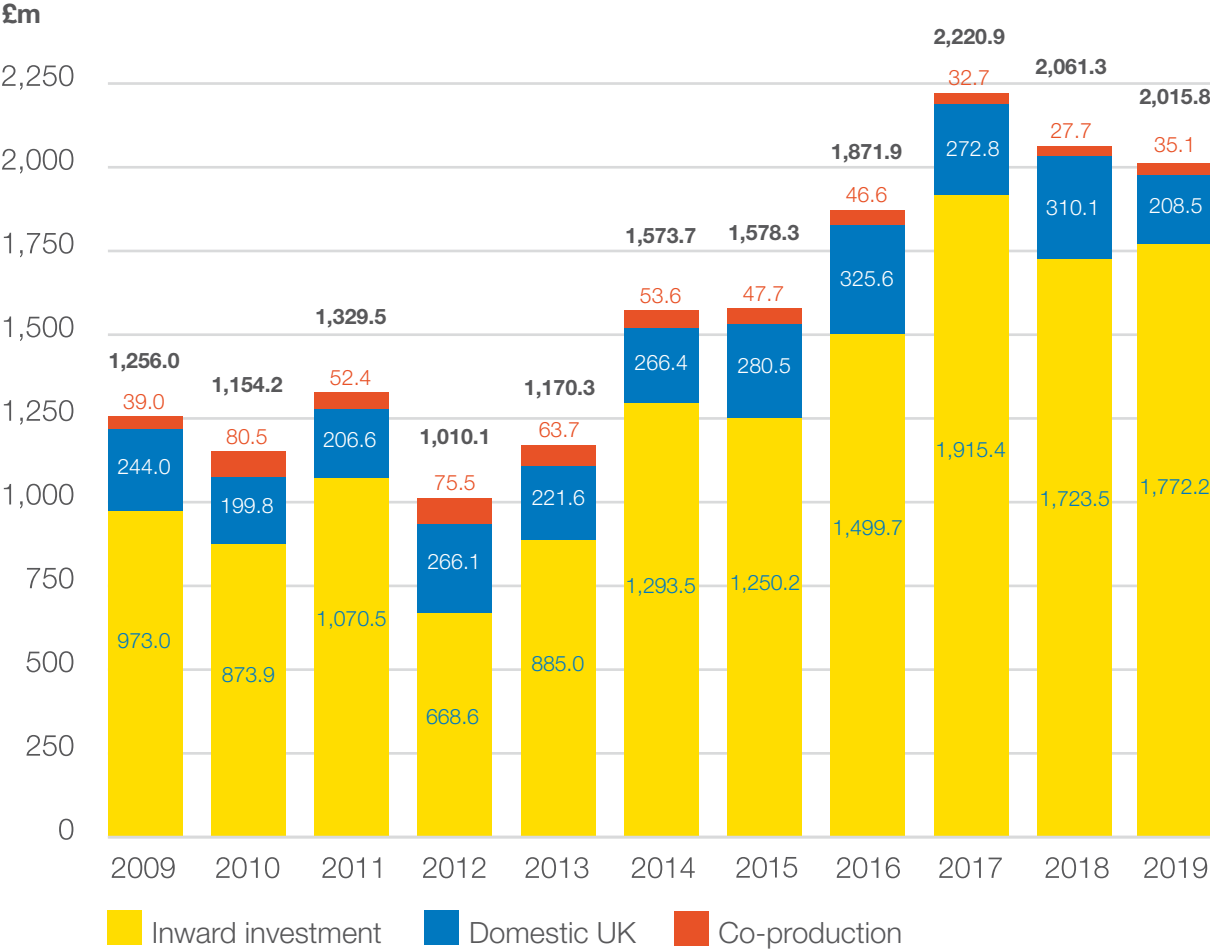
#### Expenditure

In spend terms, investment in film production in the UK reached an all-time high of £2.22 billion in 2017 and has continued to deliver spend of over £2 billion in the UK in subsequent years.

Throughout the 2017 to 2019 period, spend on inward investment production accounted for the vast majority of film production. Inward investment film production peaked at £1.92 billion in 2017, or 86.2% of total spending; in 2019, it totalled £1.77 billion, or 87.9%.

The production of a film generally occurs over a period of several months. For this reason, it is important to note that annual time-series data on film expenditure are highly susceptible to spending being concentrated for reporting conventions, ie all production spend may be assigned a year based on the start of principal photography when production may in fact span two years. This can result in significant fluctuations, which can distort year-on-year trends. In addition, and as previously noted, it is likely that totals will be revised upwards by the BFI in the future as new project data are received.

**Figure 5**  
**UK spend on film production, 2009-2019 (£m)**



Source: The BFI  
 Note:  
 Figures may not sum to totals due to rounding

**Employment**

Film production is a labour-intensive activity. To estimate the employment generated by film production, a Job Creation Model developed for the BFI as part of the study *Research Into Job Creation through Production Investment*, was used (see box below for further detail).<sup>61</sup> The Job Creation Model indicated that:

- Each £1 million spent on the production of inward investment films in the UK in 2016 led to 11.2 direct FTEs being hired<sup>62</sup>
- Each £1 million spent on the production of domestic UK and UK co-production feature films in 2016 led to 12.9 direct FTEs being hired

<sup>61.</sup> The Job Creation Model was also used in the 2018 edition of *Screen Business*  
<sup>62.</sup> 11.2 FTE jobs would represent a significantly larger number of short and long-term roles in headcount terms

- Both estimates of the rate of job creation in 2016 were adjusted on the basis of annual trends in median hourly earnings in the UK so that they could be used to estimate job creation for the 2017-2019 period.<sup>63, 64</sup>

### About the Job Creation Model

In 2016, the BFI commissioned Nordicity and Olsberg•SPI through its National Lottery-funded Research and Statistics Fund to research the rate of job creation in the film and television production sector in the UK. The objective of this research was to prepare a set of formulae to estimate the total number of FTEs generated for each million pounds of production expenditure in various genres and budget ranges of live action film and television production. A Job Creation Model specific to VFX production in the UK was also developed.

The project involved undertaking a granular review of a cross-section of production budgets to ascertain how production spend was allocated across various categories of labour and non-labour inputs (ie purchases of supplies and services from other sectors), and how that spending translated into direct, indirect and induced employment.

Each budget line item was scrutinised and assigned to either labour or non-labour categories, and then mapped to an associated Standard Occupation Classification (SOC) or Standard Industrial Classification (SIC) code. The average FTE costs in the related SOC (adjusted for a film and television sector premium) or employment intensity in the related SIC was then used to estimate the number of direct or indirect FTEs generated by each million pounds of production expenditure.

The development of the Job Creation Model for VFX was not based on the same detailed budget approach. Instead, the UK Screen Alliance workforce survey and a survey of five leading VFX studios were used to prepare estimates of direct, indirect and induced employment.

Through developing the Job Creation Model, Nordicity and Olsberg•SPI and the BFI also gained insights into the portion of live action production budgets devoted to wages paid to crew and supporting artists, ie employment compensation, and to mixed income, ie fees paid to producers, directors, cast and other key creative personnel; and remuneration for IP. The combined portion of production budgets devoted to employment compensation and mixed income gave the consultancies and the BFI an indication of the GVA generated by production spending.

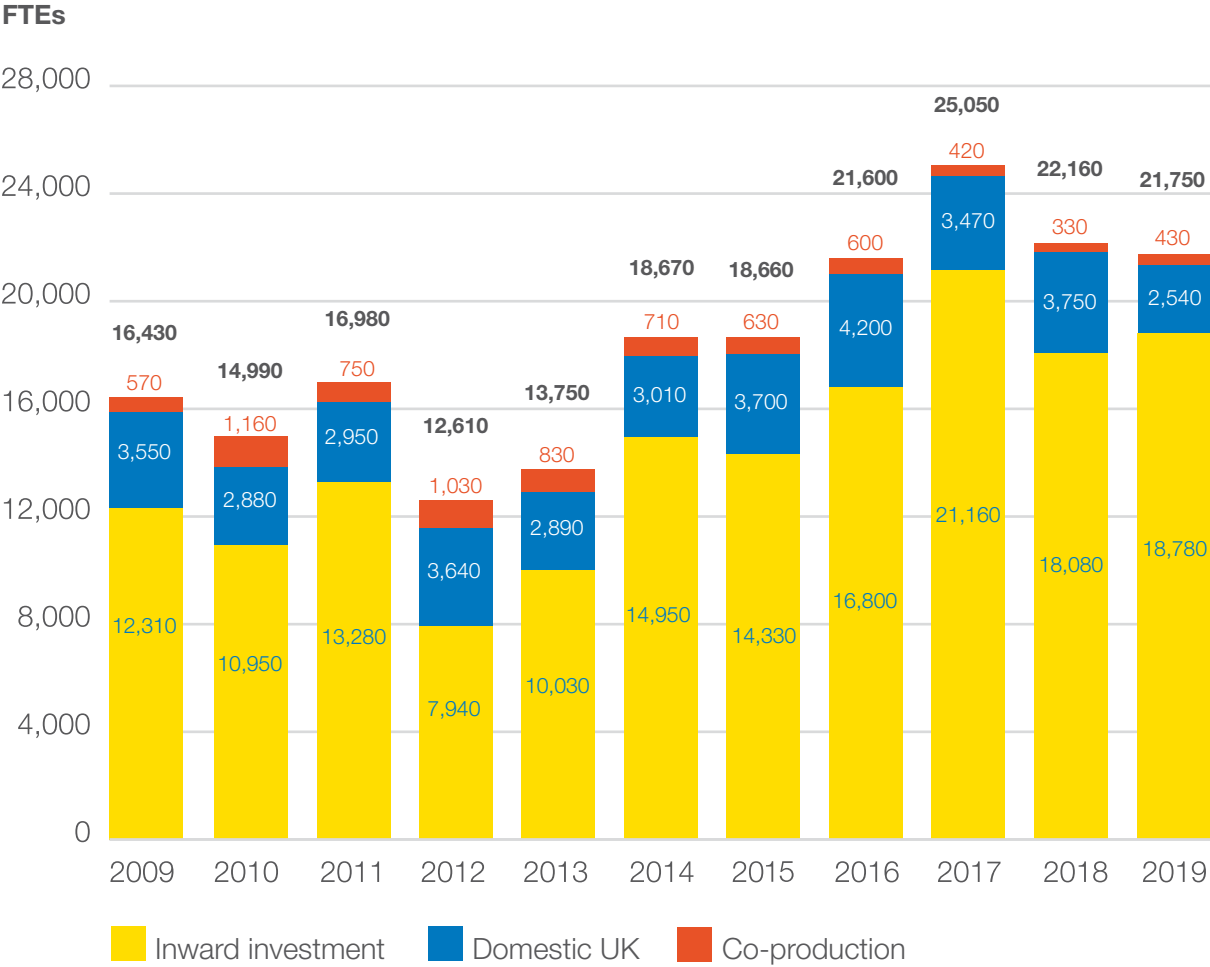
These data permitted the consultancies to estimate employment compensation and GVA ratios – ie employment compensation and GVA generated for each million pounds of production spending. The data gathered for the VFX sector allowed the consultancies to also estimate employment compensation and GVA ratios for VFX.

Based on the Job Creation Model, film production in the UK generated 25,050 direct FTEs in 2017 – including employees and freelancers (Figure 6). In 2019, employment impact was 21,750 FTEs. Of this total, 18,780 FTEs were generated by the production of inward investment films.

<sup>63.</sup> The job creation ratios were also adjusted based on annual trends in median hourly earnings, so that they could be used to estimate the levels of direct employment during the 2009-2015 historical period

<sup>64.</sup> While there are likely to be changes in the types of skills required by productions over time due to changing technology, the Job Creation Model is considered relevant to the study period as any changes over 2017-2019 are not considered to substantially change the findings

**Figure 6**  
**Direct employment generated by film production in the UK, 2009-2019 (FTEs)**



Source: Nordicity/Olsberg•SPI estimates based on data from the BFI, the Annual Business Survey (ABS) and ASHE  
 Note:  
 Figures may not sum to totals due to rounding

**Employment compensation and Gross Value Added**

In addition to the employment impact, film production also generates significant levels of GVA for the UK economy. This GVA largely comprises employment compensation paid to crew and supporting artists, although it also includes fees paid to key creative personnel (for example, producers, directors, screenwriters and actors) for royalties or licensing the use of IP on which the production is based. This component of GVA is defined as mixed income. Other key elements of GVA (ie depreciation and operating surplus) are less relevant to film production, and may be recognised in other parts of the value chain.



The Job Creation Model indicated that:

- Each million pounds spent on the production of inward investment films in the UK between 2016 and 2019 generated £0.44 million in direct employment compensation and £0.53 million in direct GVA
- Each million pounds spent on the production of domestic UK and UK official co-production feature films generated £0.47 million in direct employment compensation and £0.63 million in direct GVA

Based on these employment compensation and GVA ratios, film production in 2019 generated £893.5 million in direct employment compensation and £1.10 billion in direct GVA (Table 4).

**Table 4**  
**Direct economic impact of film production in the UK, 2016-2019**

	2016	2017	2018	2019
UK spend (£m)	1,871.9	2,220.9	2,061.3	2,015.8
Employment (FTEs)	21,600	25,050	22,160	21,750
CoE (£m)	834.8	985.7	916.7	893.5
GVA (£m)	1,031.9	1,210.5	1,129.0	1,095.2

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, ABS and ASHE

### 4.3.2. Distribution

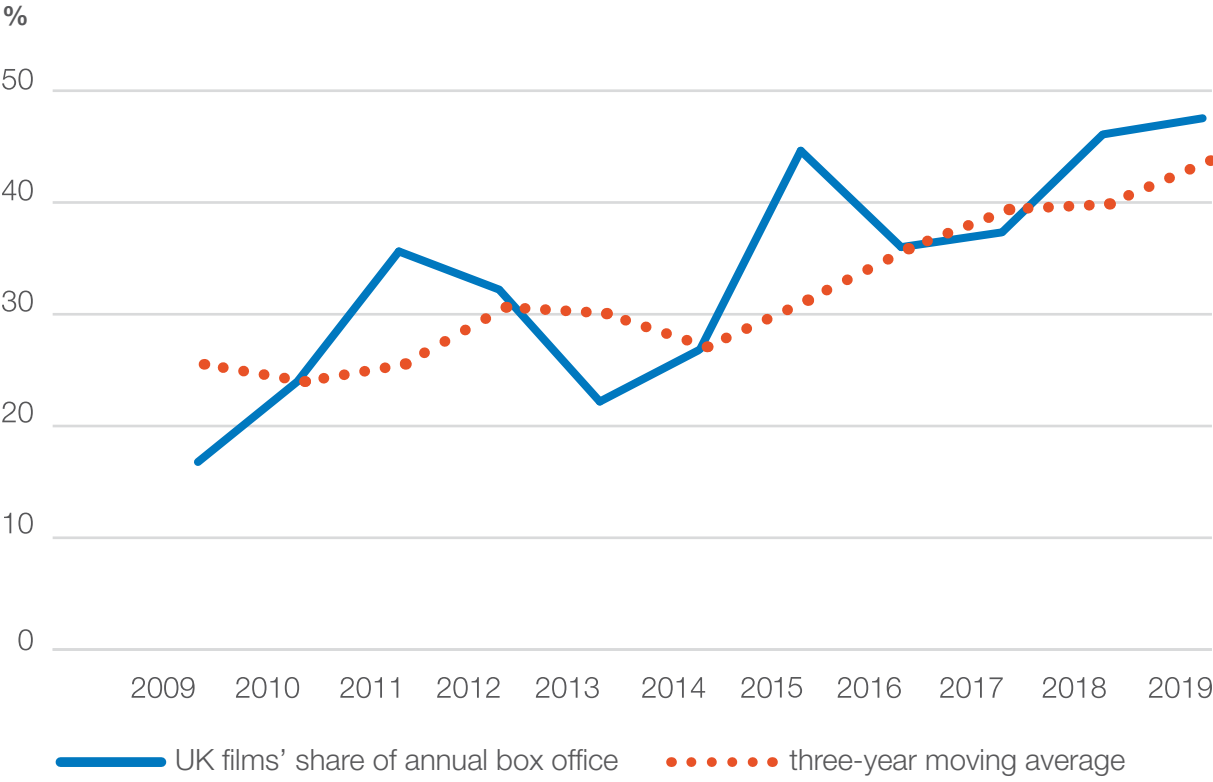
The distribution of films provides a significant source of activity for the UK economy, as UK-based companies earn licensing revenue – both in the UK and internationally – from exploitation of the various release windows and platforms, including cinema exhibition, digital video, physical video (ie DVD and Blu-ray) and television broadcast.

Reflecting the fact that the distribution sub-sector earns revenues from both UK and non-UK produced films, the portion of its revenues which relate to tax relief-supported films were analysed by multiplying overall turnover, employment and economic activity in the sub-sector (ie SIC 59.13/1, *Motion picture distribution activities*) by the three-year moving average for UK films’ share of the UK box office (Figure 7).<sup>65</sup>

The three-year average has been used to account for the fact that distribution companies earn revenues from multiple production years and to smooth out the year-to-year fluctuations in the UK box office share created by FTR-qualifying global blockbusters. For 2017, the use of the three-year moving average indicated that UK films accounted for 39.3% of economic activity in the distribution sub-sector; by 2019, this share had risen to 43.7%.

<sup>65</sup>. The three-year moving average is the mean of the annual box office share in the most recent three years. For example, for 2019, the three-year moving average is the mean of the box office for UK films in 2017, 2018 and 2019

**Figure 7**  
**UK films' share of domestic box office, annual and three-year moving average, 2009-2019**

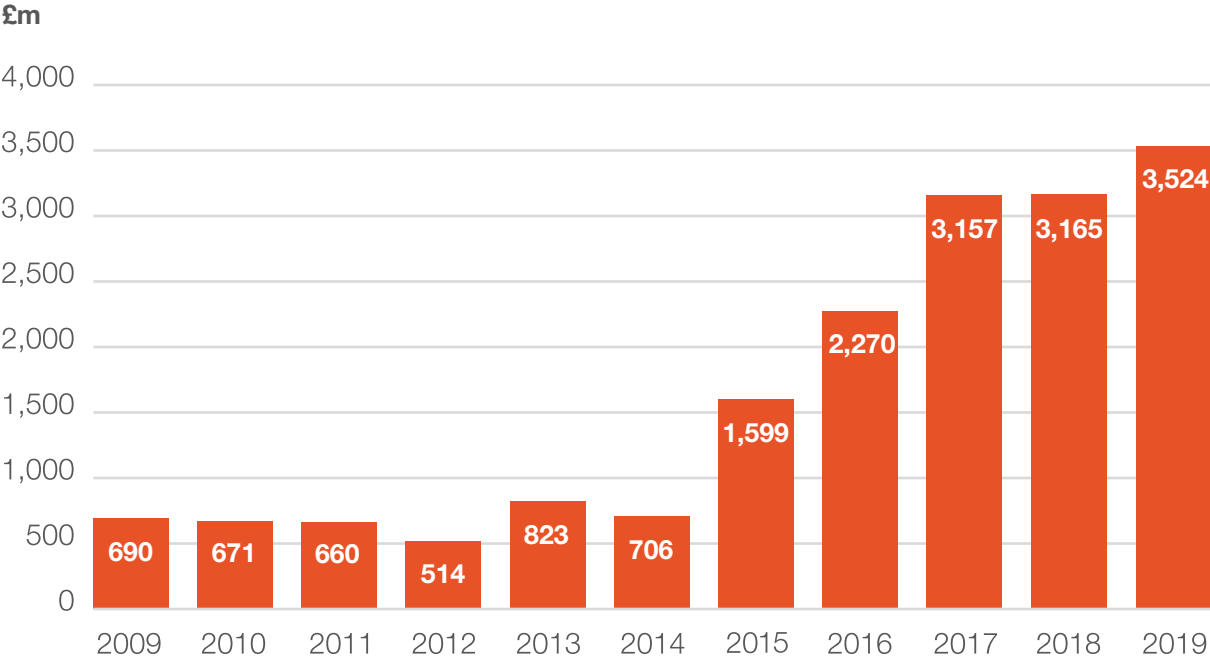


Source: Olsberg•SPI/Nordicity calculations based on data from Comscore and the BFI

The three-year moving average was multiplied by the annual revenue reported for SIC 59.13/1, Motion picture distribution to estimate the portion of distribution sub-sector revenue generated by UK films. Based on this approach, UK films generated an estimated £3.16 billion in distribution revenue in 2017, increasing to £3.52 billion in 2019.

Statistics from the Office for National Statistics (ONS) and the BFI indicated that distribution revenue generated by UK films has increased rapidly since 2014. This is related to two factors. First, the UK box office share of FTR-supported films increased during this period – from 26.8% in 2014 to 47.6% in 2019. Second, and more importantly, the underlying revenue in the UK film distribution sub-sector increased five-fold between 2014 and 2019. According to the ONS, this rapid increase in sub-sector revenue was due to several UK distribution companies experiencing increased revenue on account of new film releases during these years.

**Figure 8**  
**UK film distribution sub-sector revenue generated by UK films, 2009-2019 (£m)**



Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Comscore, and ABS

To estimate the economic impact in the distribution sub-sector associated with the distribution of UK films, the three-year moving average in box office share was multiplied by the sub-sector’s total turnover, FTE employment, employment compensation and GVA (Table 5). Based on this approach, in 2019 the distribution of UK films generated an estimated £3.52 billion in turnover, 2,190 FTEs of direct employment, £159.1 million in direct employment compensation, and £1.39 billion in direct GVA.

**Table 5****Calculation of direct economic impact of distribution of UK films in the UK, 2016-2019**

		Sub-sector total (A)	UK films' box office share (B)	UK films' contribution (C=AxB)
2016	Turnover (£m) <sup>1</sup>	6,340.0	35.8%	2,270
	Employment (FTEs) <sup>2</sup>	4,785		1,710
	CoE (£m) <sup>1</sup>	381.0		136.4
	GVA (£m) <sup>1</sup>	2,975.0		1,065.1
2017	Turnover (£m) <sup>1</sup>	8,025.0	39.3%	3,157
	Employment (FTEs) <sup>2</sup>	5,028		1,980
	CoE (£m) <sup>1</sup>	352.0		138.5
	GVA (£m) <sup>1</sup>	3,374.0		1,327.1
2018	Turnover (£m) <sup>1</sup>	7,952.0	39.8%	3,165
	Employment (FTEs) <sup>2</sup>	4,622		1,840
	CoE (£m) <sup>1</sup>	353.0		140.5
	GVA (£m) <sup>1</sup>	3,352.0		1,334.5
2019	Turnover (£m) <sup>1</sup>	8,064.0	43.7%	3,524
	Employment (FTEs) <sup>2</sup>	5,020		2,190
	CoE (£m) <sup>1</sup>	364.0		159.1
	GVA (£m) <sup>1</sup>	3,175.0		1,387.5

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, ABS, IDBR, and ASHE

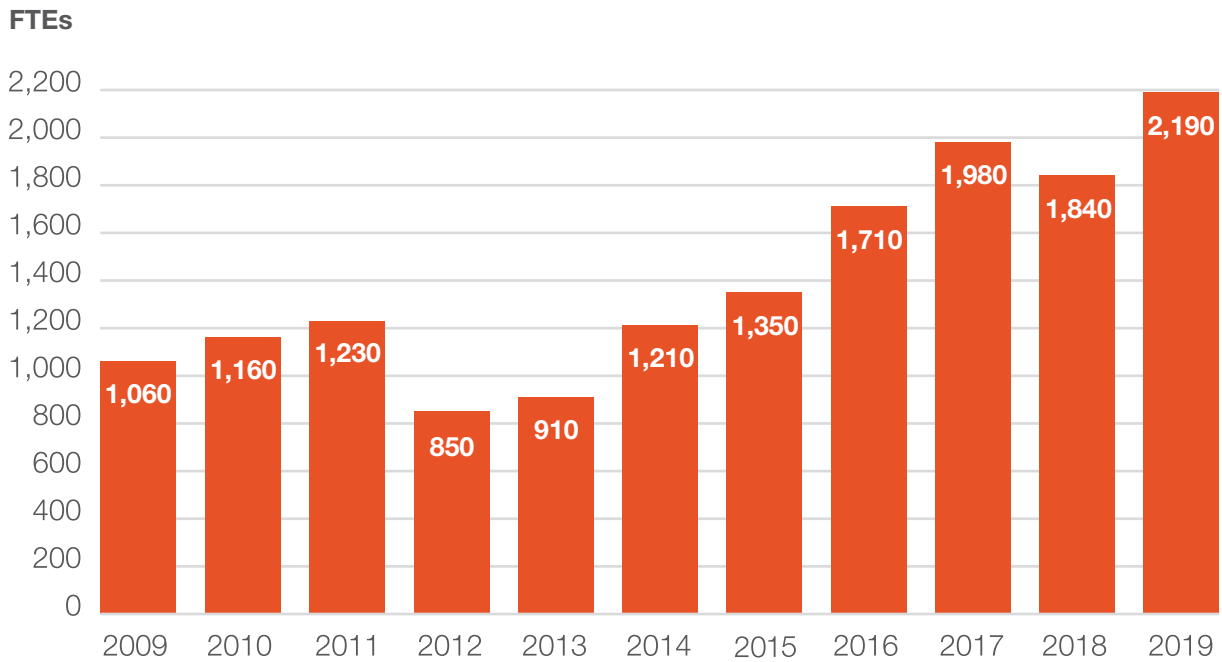
Notes:

1. Total turnover, CoE and GVA data for SIC 59.13/1, *Motion picture distribution activities* sourced from ABS

2. Total FTE employment derived by multiplying total employment in SIC 59.13/1 (sourced from IDBR/BRES) by FTE adjustment factor of 0.944

Time-series data (Figure 9) indicate that there has been a steady growth of employment relating to the distribution of UK-produced films supported by FTR since 2012. This reflects an increase in the share of UK films at the UK box office and, to a lesser degree, the growth of FTE employment within UK distribution companies since 2012.

**Figure 9**  
**UK film distribution sub-sector employment generated by UK films, 2009-2019 (FTEs)**



Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Comscore, ABS, IDBR and BRES

### 4.3.3. Cinema exhibition

Historically, the majority of films were released on a commercial basis in cinemas. While the theatrical release window now accounts for a smaller part of the overall revenue for an individual film due to the growth of other digital video windows, it still generated the greater proportion of gross value in 2018 and 2019.<sup>66</sup>

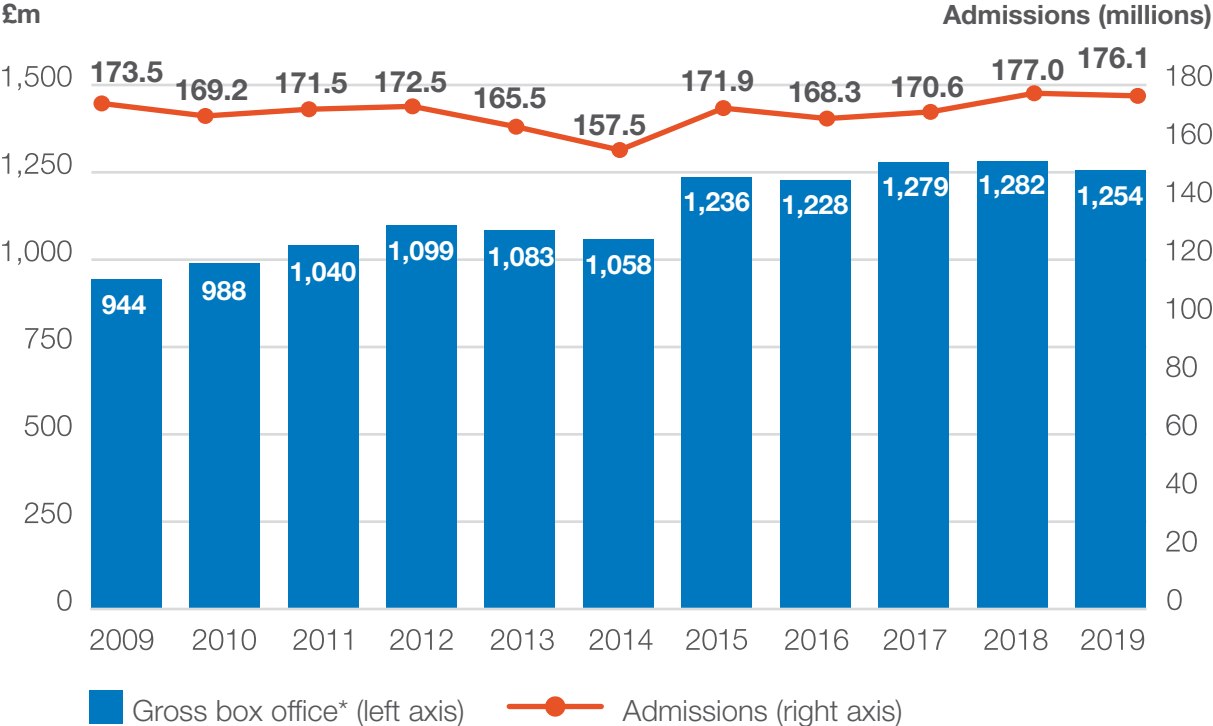
As of 2019, there were 4,480 cinema screens at 808 sites across the UK.<sup>67</sup> These cinemas sold a total of 176.1 million tickets in 2019, generating £1.25 billion in gross box office.<sup>68</sup> Cinema exhibition now also includes a variety of ‘event cinema’ content, such as live or filmed events including sports and theatre.

<sup>66.</sup> *The UK Film Market as a Whole*. The BFI Statistical Yearbook, 2020. Accessible at: <https://core-cms.bfi.org.uk/media/7370/download>

<sup>67.</sup> *Exhibition*. The BFI Statistical Yearbook, 2020. Accessible at: <https://core-cms.bfi.org.uk/media/4688/download>

<sup>68.</sup> These cinema admissions figures include admissions to films as well as event cinema, such as live theatre and sports events screened in cinemas. The statistics for gross box office include only films

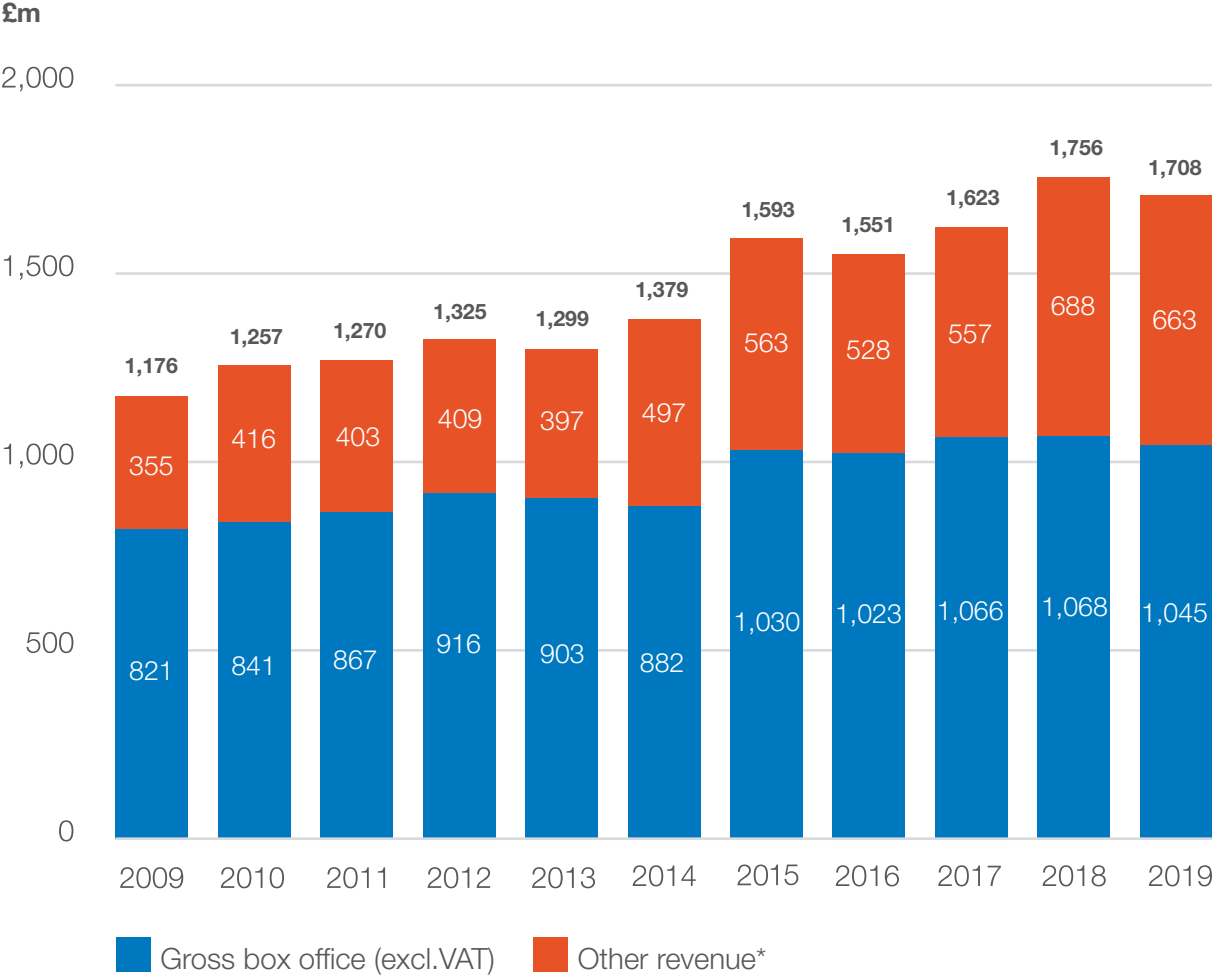
**Figure 10**  
**Cinema box office and admissions in the UK, 2009-2019**



Source: Olsberg•SPI/Nordicity calculations based on data from Comscore  
 \* Includes VAT

In addition to box office revenue from films, the UK exhibition sub-sector also earns revenue from food and beverage sales, advertising and other sources. In 2017, the UK exhibition sub-sector earned an estimated £557 million from these sources, increasing to £663 million in 2019 (Figure 11). In total, the exhibition sub-sector in the UK earned £1.71 billion in revenue in 2019.

**Figure 11**  
**Total turnover in the exhibition sub-sector in the UK, 2009-2019 (£m)**



Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, CAA, Comscore and ABS

Note:

Figures may not sum to totals due to rounding

Box office revenue in Figure 11 excludes VAT whereas the box office revenue reported in Figure 10 includes VAT

\* Includes estimates of revenue from food and beverage sales, advertising and other sources. Equal to the difference between total sub-sector turnover (as reported by ABS) and total box office revenue (as reported by the BFI)

UK films' annual share of the UK box office (Figure 7) was multiplied by the sub-sector's total turnover, employment, employment compensation and GVA to estimate the portion attributable to UK films (Table 6). Based on this approach, the exhibition of UK films generated an estimated £813.0 million in turnover, 6,180 FTEs, £149.0 million in employment compensation and £346.5 million in GVA in 2019.

**Table 6**  
**Calculation of direct economic impact of exhibition of UK films in the UK, 2016-2019**

		Sub-sector total (A)	UK films' box office share (B)	UK films' contribution (C=AxB)
2016	Turnover (£m) <sup>1</sup>	1,551.0	35.9%	556.8
	Employment (FTEs) <sup>2</sup>	12,782		4,590
	CoE (£m) <sup>3</sup>	261.0		93.7
	GVA (£m) <sup>3</sup>	601.0		215.8
2017	Turnover (£m) <sup>1</sup>	1,623.0	37.4%	607.0
	Employment (FTEs) <sup>2</sup>	13,439		5,030
	CoE (£m) <sup>3</sup>	270.0		101.0
	GVA (£m) <sup>3</sup>	636.0		237.9
2018	Turnover (£m) <sup>1</sup>	1,756.0	46.1%	809.5
	Employment (FTEs) <sup>2</sup>	13,721		6,330
	CoE (£m) <sup>3</sup>	294.0		135.5
	GVA (£m) <sup>3</sup>	718.0		331.0
2019	Turnover (£m) <sup>1</sup>	1,708.0	47.6%	813.0
	Employment (FTEs) <sup>2</sup>	12,976		6,180
	CoE (£m) <sup>3</sup>	313.0		149.0
	GVA (£m) <sup>3</sup>	728.0		346.5

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, ABS, IDBR, and ASHE

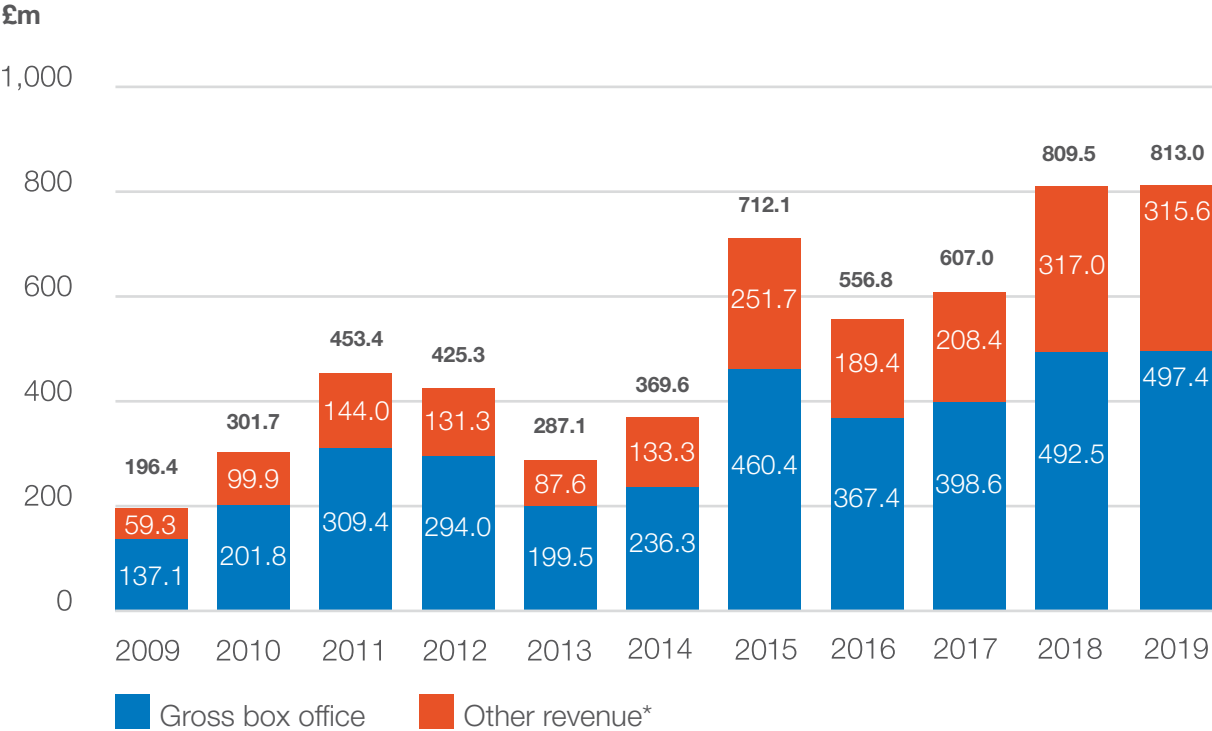
Notes:

1. Total turnover for SIC 59.14, Motion picture projection sourced from ABS. Includes box office revenue and estimates of revenue from food and beverage sales, advertising and other sources
2. Total FTE employment derived by multiplying total employment in SIC 59.14 of 20,420 (sourced from IDBR/BRES) by FTE adjustment factor of 0.626
3. Total CoE and GVA data for SIC 59.14, Motion picture projection sourced from ABS

This analysis shows that, in 2017, the exhibition sub-sector's turnover generated by UK films was £607.0 million, including £398.6 million in gross box office revenue (excluding VAT) and £208.4 million in other revenue (Figure 12). In 2019, exhibition sub-sector turnover had increased to £813.0 million, including £497.4 million in box office revenue (excluding VAT) and £315.6 million in other revenue.



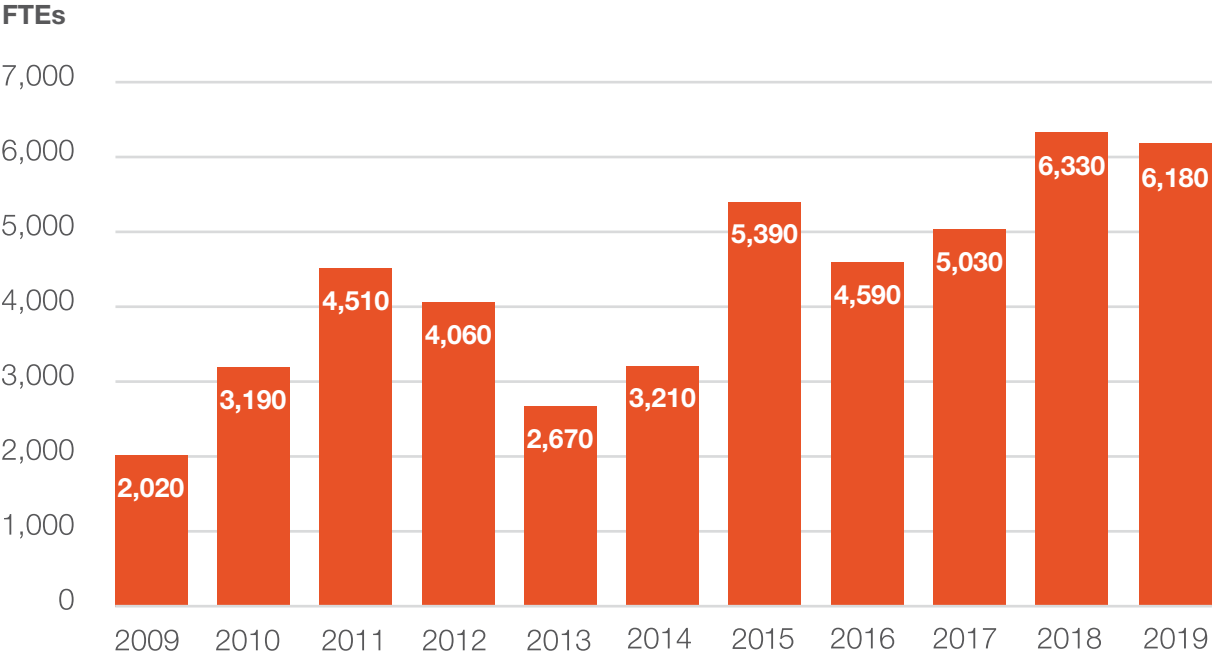
**Figure 12**  
**Exhibition sub-sector revenue generated in the UK by UK films, 2009-2019 (£m)**



Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, CAA, Comscore, and ABS  
 Note: figures may not sum to totals due to rounding  
 \* Includes estimates of revenue from food and beverage sales, advertising and other sources

Direct employment generated by UK films increased from 5,030 FTEs in 2017 to 6,180 FTEs in 2019 (Figure 13).

**Figure 13**  
**Direct employment in the UK exhibition sub-sector generated by UK films, 2009-2019 (FTEs)**



Source: Olsberg\*SPI/Nordicity estimates based on data from the BFI, CAA, Comscore, and ABS, IDBR and BRES

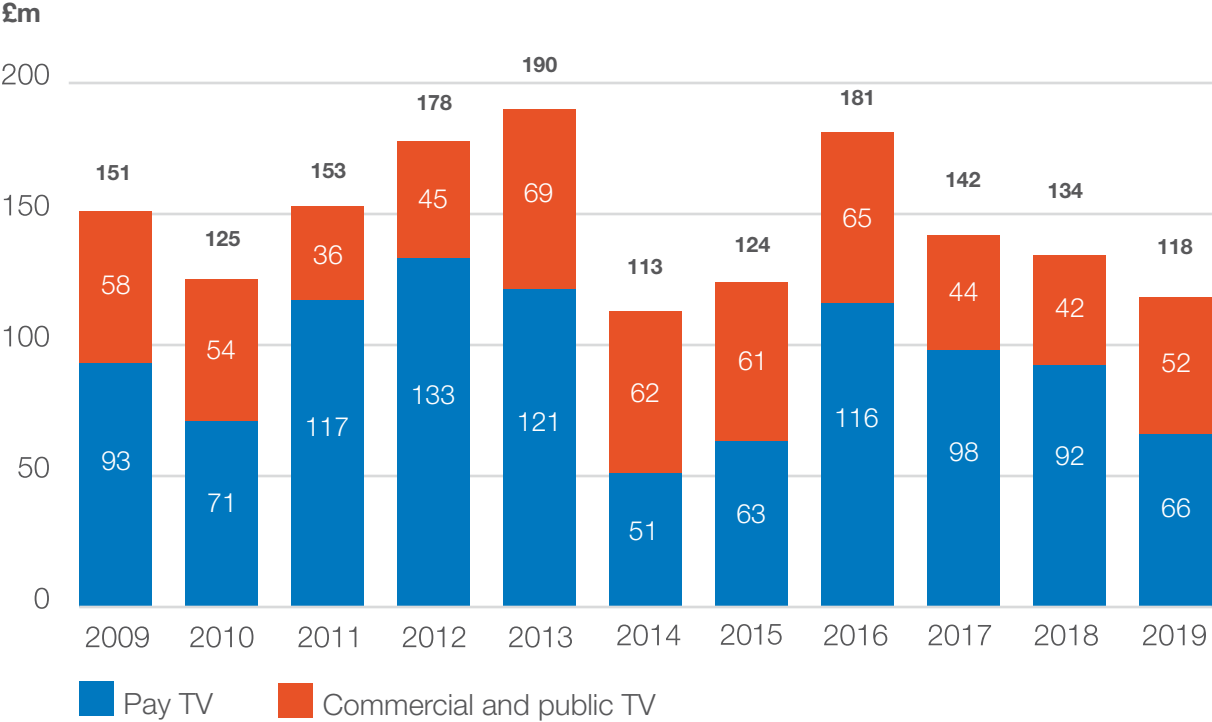
### 4.3.4. Secondary windows

As previously outlined, secondary release windows include television broadcast, digital video platforms and home video sales and rentals. These are analysed in this section.

#### Television broadcast

Films continue to generate economic activity as they are licensed to secondary-release windows, including television broadcast on free-to-air and subscription channels. Television broadcast has always been an important secondary release window – and occasionally a primary release mode – for the films supported by FTR. In 2017, this window generated £142.0 million in value, the majority of which came from pay TV services (Figure 14). By 2019, this value had declined to £118 million. The downward trend since 2016 likely reflects the rise of film consumption on digital video platforms and the declining value of this secondary window to broadcasters.

**Figure 14**  
**Value of UK films on UK television, 2009-2019 (£m)**



Source: Ampere Analysis, Omdia, BFI RSU, Attentional

To estimate the economic contribution generated by film in the television broadcast sub-sector, the ratio of employment compensation to total turnover (the CoE ratio) and the ratio of GVA to total turnover (the GVA ratio) were derived from ONS Annual Business Survey (ABS) data for SIC 60.2, *Television programming and broadcast activities*. The ABS indicated that the CoE ratio for SIC 60.2 was 0.10 between 2017 and 2019. The GVA ratio was 0.20 in 2017, 0.15 in 2018 and 0.18 in 2019.<sup>69</sup> These ratios were applied to data on the value of UK films on UK television, published by the BFI.<sup>70</sup>

The employment impact was estimated by dividing the estimated employment compensation (derived using the CoE ratio) by an average FTE cost (2017: £47,095; 2018: £49,468; 2019: £55,994).<sup>71</sup>

Based on the employment compensation and GVA ratios and average FTE costs, the £142.0 million in television broadcast sub-sector revenue attributable to UK films in 2017 generated 300 FTEs of direct employment (Table 7). In 2019, the corresponding FTE impact was 210 FTEs. These estimates represent the individuals at the various services which show UK films on UK television who are engaged in the process of delivering this content onto television screens – ie employees engaged in broadcasting and transmission activities.

<sup>69</sup>. See Appendix 3 for detailed description of derivation of the employment compensation and GVA ratios  
<sup>70</sup>. *UK Film Market as a Whole*. Ibid  
<sup>71</sup>. See Appendix 3 for detailed description of derivation of the average FTE cost

In other words, the advertising, subscription, licence fee and other income generated by UK films supported 210 FTEs in SIC 60.2 in 2019, or 0.5% of the total employment of the overall 38,870 FTEs in employment in that area of activity.<sup>72</sup> This attributable revenue also generated £11.8 million in direct employment compensation and £21.2 million in direct GVA.

**Table 7**  
**Direct economic impact of UK films broadcast on UK television, 2016-2019**

	2016	2017	2018	2019
Attributable revenue (£m)	181.0	142.0	134.0	118.0
Employment (FTEs) <sup>1</sup>	410	300	270	210
CoE (£m) <sup>2</sup>	19.9	14.2	13.4	11.8
GVA (£m) <sup>3</sup>	65.2	28.4	20.1	21.2

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, Ofcom, ABS and ASHE  
 Notes:

There has been a significant downward revision to attributable revenue in 2016 from the previous edition of this study due to the BFI's restatement of the value of UK film on television in 2016

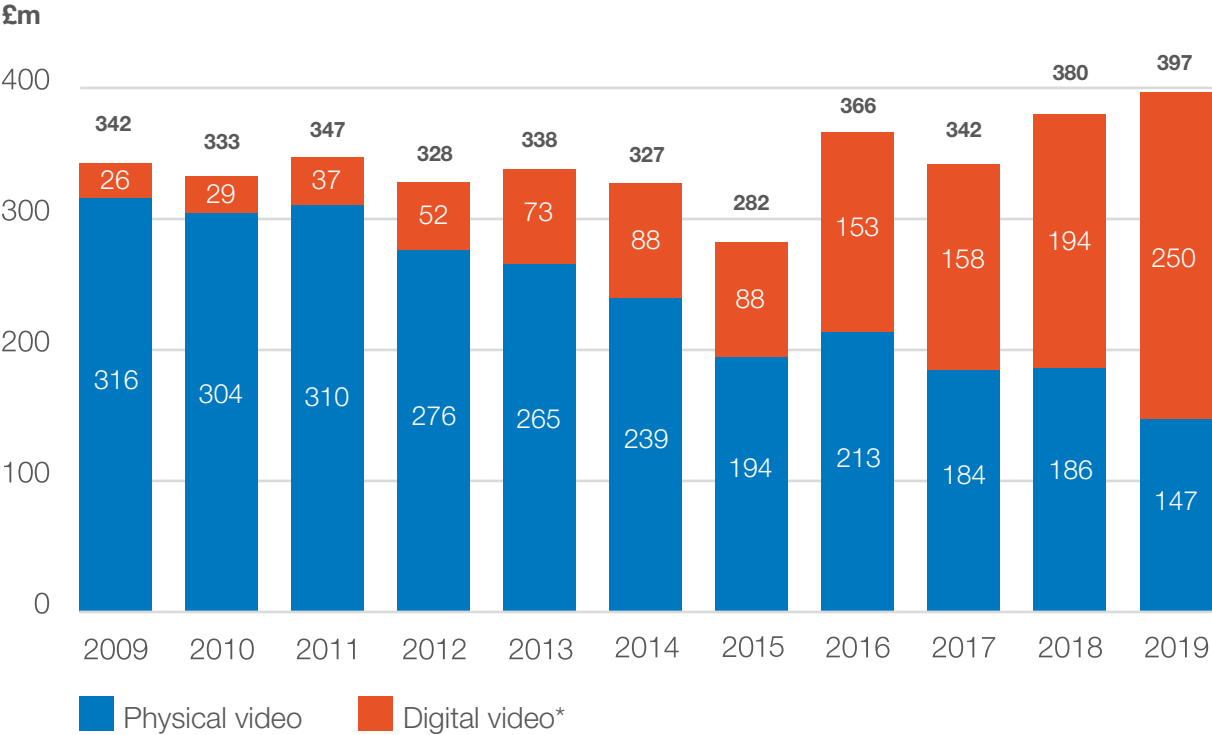
- 1. Equal to CoE ÷ average FTE cost in SIC 60.2
- 2. Equal to attributable revenue x CoE ratio for SIC 60.2
- 3. Equal to attributable revenue x GVA ratio for SIC 60.2

**Video platforms**

While physical video platforms have historically been a highly significant release window for the film sector, recent years have seen rapid take-up of digital video services, particularly SVoD, overtake the physical home video market. Figure 15 shows that the value of UK films on digital video platforms surpassed physical video sales and rentals in the UK for the first time in 2018, and in 2019 accounted for 63.0% of the total market.

<sup>72</sup>. Data from IDBR indicate that total employment in SIC 60.2 was 42,879 in 2016. Based on an FTE conversion rate of 0.969, this total employment is equivalent to 41,540 FTEs

**Figure 15**  
**Value of UK films in digital video and physical video markets in the UK, 2009-2019 (£m)**



Source: BASE, Official Charts Company, Omdia, the BFI RSU analysis  
 Note:  
 \* Includes VoD, SVoD and TVoD

**Digital video**

To estimate the economic contribution attributable to UK films in the digital video market, public financial information for Amazon’s video operations in the UK were used to derive employment compensation and GVA ratios. These data were also used to estimate an employment ratio (ie the number of FTEs employed per million pounds of turnover). Based on these ratios, the attributable revenue of £250.0 million in 2019 generated 80 direct FTEs, £8.3 million in direct employment compensation and £30.3 million in direct GVA.

**Physical video**

To estimate the economic contribution attributable to UK films in the physical video market, ABS data for SIC 47, Retail sale, except of motor vehicles and motorcycles was used to derive employment compensation and GVA ratios, which were multiplied by attributable revenue. Based on these ratios, UK films’ attributable revenue of £147.0 million for physical video in 2019 generated 750 direct FTEs, £18.1 million in direct employment compensation and £31.8 million in direct GVA.

**Video platforms summary**

In total, the revenue attributable to UK films on video platforms (£397.0 million) generated 830 direct FTEs, £26.3 million in direct employment compensation and £62.0 million in direct GVA in 2019 (Table 8).

**Table 8**  
**Direct economic impact of UK films on video platforms, 2016-2019**

		2016	2017	2018	2019
Value of UK films (£m)	Digital	153	158	194	250
	Physical	213	184	186	147
	<b>Total</b>	<b>366</b>	<b>342</b>	<b>380</b>	<b>397</b>
Employment (FTEs)	Digital	50	50	60	80
	Physical	1,200	1,020	970	750
	<b>Total</b>	<b>1,250</b>	<b>1,070</b>	<b>1,030</b>	<b>830</b>
CoE (£m)	Digital	5.0	5.2	6.4	8.3
	Physical	26.2	23.0	22.5	18.1
	<b>Total</b>	<b>31.2</b>	<b>28.2</b>	<b>28.9</b>	<b>26.3</b>
GVA (£m)	Digital	18.5	19.1	23.5	30.3
	Physical	46.6	39.4	40.0	31.8
	<b>Total</b>	<b>65.2</b>	<b>58.5</b>	<b>63.5</b>	<b>62.0</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Omdia, ABS, public financial reports, Official Charts Company, BASE, ASHE

Notes:

Figures may not sum to totals due to rounding  
 See Appendix 3 for description of methodology

#### 4.3.5. Summary of direct economic impact

The analysis of the above sub-sectors – production, distribution, cinema exhibition, television broadcast and video platforms – has been brought together to estimate the direct economic impact of the UK film sector supported by FTR. In total, this shows that film generated 31,160 direct FTEs in 2019 along with £1.24 billion in direct employment compensation and £2.91 billion in GVA (Table 9).

**Table 9**  
**Summary of direct economic impact of UK film across the value chain, 2016-2019**

		Production	Distribution	Cinema exhibition	Television broadcast	Video platforms†	Total
Employment (FTEs)	2016	21,600	1,710	4,590	410	1,250	<b>29,560</b>
	2017	25,050	1,980	5,030	300	1,070	<b>33,430</b>
	2018	22,160	1,840	6,330	270	1,030	<b>31,630</b>
	2019	21,750	2,190	6,180	210	830	<b>31,160</b>
CoE (£m)	2016	834.8	136.4	93.7	19.9	31.2	<b>1,116.0</b>
	2017	985.7	138.5	101.0	14.2	28.2	<b>1,267.5</b>
	2018	916.7	140.5	135.5	13.4	28.9	<b>1,235.1</b>
	2019	893.5	159.1	149.0	11.8	26.3	<b>1,239.6</b>
GVA (£m)	2016	1,031.9	1,065.1	215.8	65.2	65.2	<b>2,443.1</b>
	2017	1,210.5	1,327.1	237.9	28.4	58.5	<b>2,862.3</b>
	2018	1,129.0	1,334.1	331.0	20.1	63.5	<b>2,877.7</b>
	2019	1,095.2	1,387.5	346.5	21.2	62.0	<b>2,912.5</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, Ofcom, Omdia, ABS, public financial reports, Official Charts Company, BASE and ASHE

Notes:

Figures may not sum to totals due to rounding

† Includes physical video sales and rentals, and digital video (ie VoD/SVoD/TVoD)

See Appendix 3 for description of methodology

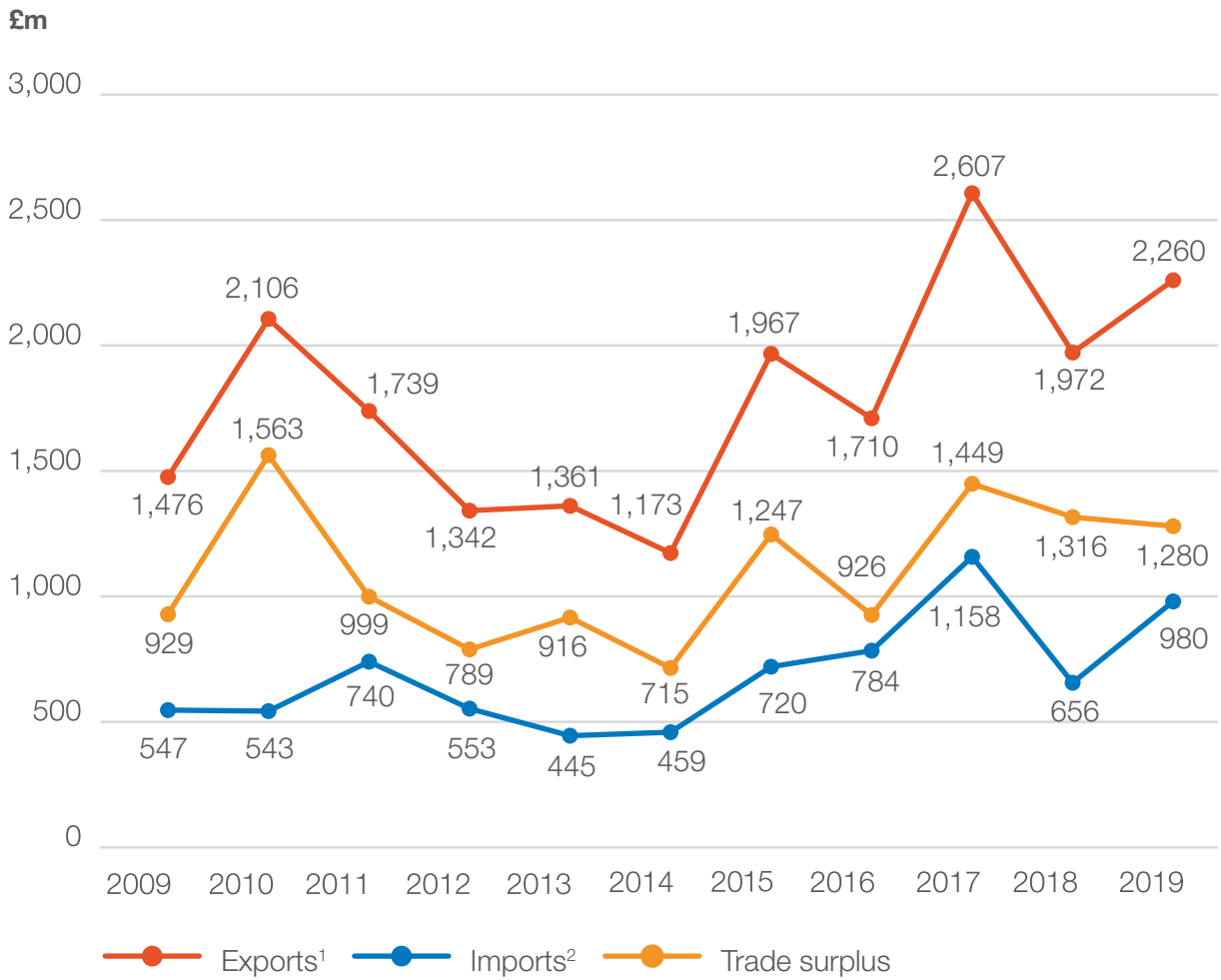
### 4.3.6. International trade

The film sector is a significant source of export revenues for the UK economy. This reflects the fact that a major part of the UK film sector supported by tax relief is directly linked to the receipt of royalty revenue from the exploitation of UK IP overseas, as well as the sale of UK-based production services to foreign investors. The International Trade in Services (ITIS) dataset used to analyse this element of the sector covers both of these.

In 2019, the UK film sector generated £2.26 billion in exports for the UK economy and contributed to a trade surplus of £1.28 billion (Figure 16).<sup>73</sup>

<sup>73</sup> ONS ITIS Survey, 2019

**Figure 16**  
**International trade in the UK film sector, 2009-2019†**



Source: ONS ITIS

Notes:

† Includes trade in intellectual property, and audiovisual and related services

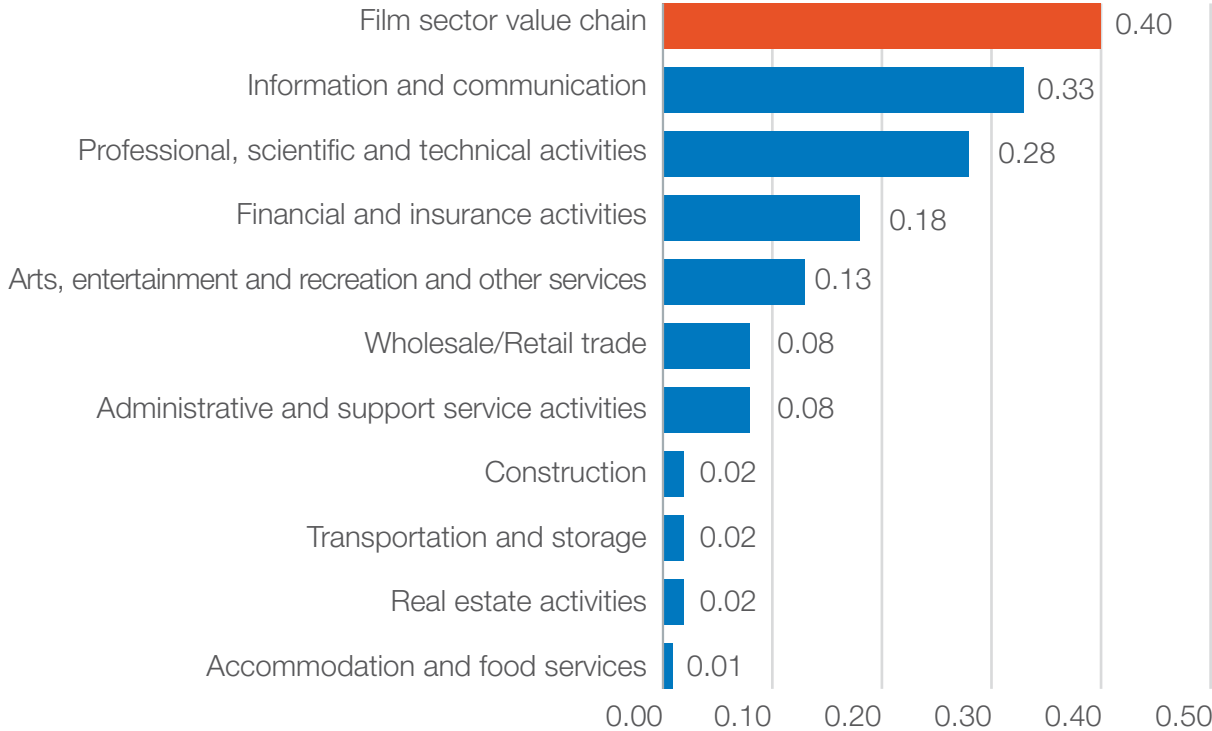
1. Exports include sums receivable from residents in other countries, excluding 'other services'

2. Imports include sums payable to residents in other countries, excluding 'other services'



To provide context, the export-to-GVA ratio for the film sector (including all sub-sectors) was compared to the other service industries in the UK economy, as defined by the ONS. The results of this (Figure 17) show the film sector having a significantly higher ratio of exports to GVA than other UK service industries, having achieved a ratio of 0.40, compared with the second highest sector reaching just 0.33.

**Figure 17**  
**Exports-to-GVA ratio, UK film sector vs UK service industries, 2015-2019**



Source: Olsberg•SPI/Nordicity estimates based on data from ONS ITIS, the BFI, Attentional, Ofcom, Omdia, ABS, public financial reports, Official Charts Company, BASE and ASHE

## 4.4. Total economic impact

In addition to the direct economic impact described so far, the film sector generates significant indirect and induced impacts. Film production and the film sector value chain drive the purchase of supplies and services from a variety of other non-screen sectors, from electricians to legal and catering services. This is referred to as the indirect impact, and produces income and employment in these supplier sectors.<sup>74</sup>

The cast and crew employed by the film sector, and those employed in its supplier sectors, re-spend their income within the wider economy, which generates further economic activity. This is referred to as the induced impact.

The total economic impact is equal to the sum of the direct, indirect and induced impacts.

To identify the indirect and induced impacts, the ONS input-output (I-O) tables were used to generate a bespoke economic impact model for the sector.<sup>75</sup>

This model indicated that the total economic impact of the UK film sector supported by FTR in 2019 was equal to 68,930 FTEs, £2.39 billion in employment compensation and £4.98 billion in GVA (Table 10). This total impact included contributions from each of the value chain segments as follows.<sup>76</sup>

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**74.** Previous analysis of below-the-line budget spend undertaken shows that, on average, 33% of spend remained within the screen production sector, with 67% impacting other business sectors. These included construction, travel and transport, and hospitality and catering. *Global Screen Production – The Impact of Film and Television Production on Economic Recovery From COVID-19*. Olsberg•SPI, 25 June 2020. Further analysis of spending has also been undertaken for this study: see Section 11

**75.** A full analysis of this methodological approach is included in Appendix 3

**76.** Detailed data tables for each of these value chain elements are included in Appendix 4

**Table 10**  
**Total economic impact of FTR, by value chain segment, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Production	44,660	52,220	46,020	45,460
	Distribution	6,880	9,070	8,590	9,790
	Exhibition	8,030	8,720	11,010	10,930
	Television broadcast	860	650	580	490
	Video platforms	2,750	2,340	2,260	2,260
	<b>Total</b>	<b>63,180</b>	<b>73,000</b>	<b>68,460</b>	<b>68,930</b>
CoE (£m)	Production	1,506.5	1,788.2	1,659.4	1,623.3
	Distribution	286.2	346.8	349.4	391.6
	Exhibition	185.3	202.8	271.3	285.3
	Television broadcast	32.7	24.2	22.9	20.1
	Video platforms	72.2	63.0	63.6	66.8
	<b>Total</b>	<b>2,082.9</b>	<b>2,425.0</b>	<b>2,366.5</b>	<b>2,387.2</b>
GVA (£m)	Production	2,197.2	2,603.6	2,417.8	2,362.3
	Distribution	1,351.0	1,724.8	1,732.9	1,831.5
	Exhibition	389.1	430.5	587.9	604.5
	Television broadcast	89.8	47.7	38.3	37.3
	Video platforms	135.8	123.0	129.2	139.9
	<b>Total</b>	<b>4,162.9</b>	<b>4,929.6</b>	<b>4,906.0</b>	<b>4,975.5</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, public financial reports, Official Charts Company, BASE and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 11**  
**Economic contribution of FTR, total value chain, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	29,560	33,430	31,630	31,160
	Indirect	21,600	25,500	23,780	24,530
	Induced	12,020	14,070	13,050	13,240
	<b>Total</b>	<b>63,180</b>	<b>73,000</b>	<b>68,460</b>	<b>68,930</b>
CoE (£m)	Direct	1,116.0	1,267.5	1,235.1	1,239.6
	Indirect	580.1	699.0	687.2	703.1
	Induced	386.7	458.5	444.2	444.5
	<b>Total</b>	<b>2,082.9</b>	<b>2,425.0</b>	<b>2,366.5</b>	<b>2,387.2</b>
GVA (£m)	Direct	2,443.1	2,862.3	2,877.7	2,912.5
	Indirect	1,126.1	1,364.6	1,341.9	1,374.6
	Induced	593.8	702.6	686.4	688.4
	<b>Total</b>	<b>4,162.9</b>	<b>4,929.6</b>	<b>4,906.0</b>	<b>4,975.5</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, public financial reports, Official Charts Company, BASE and ASHE

Note:

Figures may not sum to totals due to rounding

## 4.5. Spillover impacts

In addition to economic impacts within the film sector and its supply chains, benefits – or ‘positive externalities’ – are also created for other sectors. These are known as spillover impacts. In this section, the work undertaken for the 2015 equivalent and 2018 edition of *Screen Business* has been updated to analyse three key spillover impacts associated with the film sector: tourism, merchandise sales and UK brand promotion.

### 4.5.1. Inbound tourism

The tourism benefits associated with films are being increasingly recognised, with some visitors often willing to travel to locations or settings for prolonged periods of time because of a screen association. Such trips naturally deliver economic benefits.

The UK has produced films and film franchises with a strong sense of place and culture in recent years. Such projects include *The Secret Garden*, which used multiple locations in Yorkshire including Helmsley Walled Gardens, *T2 Trainspotting*, which filmed in Edinburgh, and *The Favourite*, which filmed at Hatfield House in Hertfordshire.<sup>77, 78, 79</sup> UK films encourage travel by audiences from all over the world, as well as being prominently featured in UK tourism promotions.

The methodology used in the 2015 equivalent and 2018 edition of *Screen Business* was updated with the most recently released data to estimate the economic impact of film tourism.

In 2017, inbound tourists spent an estimated £729.4 million in film-related screen tourism in the UK. This is estimated to have increased to £892.6m in 2019. This spending generated 15,300 FTEs of total employment (ie including direct, indirect and induced impacts) in 2017, increasing to 17,660 FTEs in 2019. The GVA impact of film-related screen tourism was an estimated £733.8 million in 2017, increasing to £898.0 million in 2019. This economic activity yielded an estimated £227.6 million in tax revenue in 2017, increasing to £278.6 million in 2019.

**Table 12**  
**Economic impact of film-related screen tourism, 2016-2019**

	2016	2017	2018	2019
Tourism spending (£m)	627.2	729.4	821.7	892.6
Total employment impact (FTEs) <sup>1</sup>	13,490	15,300	16,830	17,660
Total GVA impact (£m) <sup>1</sup>	631.0	733.8	826.6	898.0
Total tax revenue impact (£m) <sup>1</sup>	195.7	227.6	256.5	278.6

Source: Olsberg•SPI/Nordicity estimates

Note:

1. Includes direct, indirect and induced economic impacts

<sup>77.</sup> 'The Secret Garden' Location Spotlight. Screen Yorkshire webpage. Accessible at: <https://www.screenyorkshire.co.uk/funding/productions/the-secret-garden-location-spotlight/>

<sup>78.</sup> T2 Trainspotting. Edinburgh.org webpage. Accessible at: <https://edinburgh.org/edinburgh-on-film/filmed-in-edinburgh/t2-trainspotting/>

<sup>79.</sup> Where was The Favourite filmed? Creative England webpage. Accessible at: <https://www.creativeengland.co.uk/where-was-the-favourite-filmed/>

## 4.5.2. Merchandise

The retail sector also sees spillovers from the film sector as a result of merchandising across a wide variety of products and sectors such as music, fashion and publishing.

To estimate the economic impact of merchandising, the model used in previous studies was updated to ensure consistency and comparability. Research conducted in 2012 found that the total value of merchandise sales associated with UK-made films was equivalent to 70% of the domestic UK box office of those films (based on the lagged average for the previous three years).<sup>80</sup>

This approach implies that film-related merchandise sales in the UK in 2017 were £343.4 million, increasing to £388.8 million in 2019. The retail margin (ie retail industry revenue) on sales generated a total economic and fiscal impact (ie including direct, indirect and induced impacts) of 1,930 FTEs, £64.9 million in GVA and £13.0 million in tax revenue for the UK in 2017. This total economic and fiscal impact increased to 2,030 FTEs, £73.5 million in GVA and £14.7 million in tax revenue in 2019.

**Table 13**  
**Economic impact of film-related merchandise sales in the UK, 2016-2019**

	2016	2017	2018	2019
Merchandise sales (£m)	297.9	343.4	352.4	388.8
Retail margin (£m) <sup>1</sup>	89.4	103.0	105.7	116.6
Total employment impact (FTEs) <sup>2</sup>	1,860	1,930	1,930	2,030
Total GVA impact (£m) <sup>2</sup>	56.3	64.9	66.6	73.5
Total tax revenue impact (£m) <sup>2</sup>	11.3	13.0	13.3	14.7

Source: Olsberg•SPI/Nordicity estimates

Notes:

1. 30% retail margin earned by UK-based retailers

2. Includes direct, indirect and induced economic impacts

## 4.5.3. UK brand promotion

Beyond the direct benefits of film to the economy from production, tourism and ancillary merchandising sales, there are further economic and cultural benefits to the UK's brand. The global consumption of UK film – including its stories, characters and locations – can stimulate interest in the UK and enhance its image and reputation. This creates valuable promotional benefits in both cultural and economic terms, as demonstrated in the UK Government's GREAT campaign which utilised UK film content for the global promotion of UK-produced goods and services.

The effects of brand promotion generate value for the UK indirectly with the assumption that, by creating positive interest in the UK and improving its image and reputation, films assist in driving relationships in trade and investment.

<sup>80</sup>. *The Economic Impact of the UK Film Industry*. Oxford Economics, 2012. Accessible at: <https://www2.bfi.org.uk/sites/bfi.org.uk/files/downloads/bfi-economic-impact-of-the-uk-film-industry-2012-09-17.pdf>

In 2011, film merchandise sales excluding home video sales and rentals summed to £180 million, which was approximately 70% of the lagged three-year average UK domestic box office for UK films (£255.3 million)

Since such effects are challenging to value, the value of product placement in UK films to brands was calculated. This assumes that the value found by commercial brands in being associated with UK films will deliver a similar value to the UK's association overall.

This methodology involved a number of assumptions which are outlined in this section. The model assumes that entities engaging in product placement are using a sound business rationale and that this spend will therefore be worth at least as much as they earn in additional profits.

Data available on the value of product placement spending in 2012 suggest that it was equivalent to 4.7% of the global box office in that year.<sup>81, 82</sup> More recent data on the global market for product placement suggest that spending in film was equivalent to 7.2% of the global box office.<sup>83, 84, 85</sup> This model calculates the value of product placement by UK brands to reach consumers in overseas markets, and therefore can be based on the box office of UK films outside of the UK.

According to the BFI, UK films earned £6.29 billion at the global box office in 2017, £478.3 million of which was earned in the UK.<sup>86</sup> Therefore, £5.81 billion was made by UK films exhibited outside the UK in 2017. In 2019, UK films earned £7.47 billion in box office outside the UK.

A large portion of this box office came from films which were US studio-backed but made in the UK, so to ensure only revenues made by UK producers are calculated, this share was discounted by 50%. Such a change reflects the fact that while Star Wars, for example, promotes the UK, its locations and businesses, this value is shared with Disney and its resorts around the world. This leaves an adjusted value of £2.9 billion.

This adjusted value was multiplied by the ratio of product placement spending to the global box office (7.2% in 2019) to arrive at an estimate of the amount paid by UK brands to access overseas markets – £268.9 million in 2019. Based on an average net profit margin of 8.2% during 2019 by private non-financial corporations in the UK, this payment would therefore represent £3.28 billion in increased annual turnover for UK brands outside of the UK in 2019.<sup>87, 88</sup>

Using ratios between turnover and GVA/employment derived from ONS, these incremental global revenues generated a total economic and fiscal impact (ie including direct, indirect and induced impacts) of 32,030 FTEs, £1.74 billion in GVA and £399.7 million in tax revenue in 2019.

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**81.** *Global product placement spend rises.* WARC, 13 April 2013. Accessible at: <https://www.warc.com/newsandopinion/news/global-product-placement-spend-rises/31278>

**82.** *Theatrical Market Statistics 2012.* Motion Picture Association. Accessible at: <https://www.motionpictures.org/wp-content/uploads/2014/03/2012-Theatrical-Market-Statistics-Report.pdf>

**83.** *Global Product Placement Spend Up 14.5% to \$20.6B in 2019, But COVID-19 Impact to End 10-Yr Growth Streak in 2020; Strong Rebound Seen in '21 on TV, Digital, Music Growth.* Cision PR Web, 27 May 2020. Accessible at: [https://www.prweb.com/releases/global\\_product\\_placement\\_spend\\_up\\_14\\_5\\_to\\_20\\_6b\\_in\\_2019\\_but\\_covid\\_19\\_impact\\_to\\_end\\_10\\_yr\\_growth\\_streak\\_in\\_2020\\_strong\\_rebound\\_seen\\_in\\_21\\_on\\_tv\\_digital\\_music\\_growth/prweb17146134.htm](https://www.prweb.com/releases/global_product_placement_spend_up_14_5_to_20_6b_in_2019_but_covid_19_impact_to_end_10_yr_growth_streak_in_2020_strong_rebound_seen_in_21_on_tv_digital_music_growth/prweb17146134.htm)

**84.** *THEME Report 2020.* MPA. Accessible at: <https://www.motionpictures.org/wp-content/uploads/2021/03/MPA-2020-THEME-Report.pdf>

**85.** While data on the global value of the product placement market was not available for the intervening years, a straight-line method was used to estimate film product placement spending as a share of global box office for 2013 to 2018

**86.** *Statistical Yearbook 2018.* The BFI. Accessible at: <https://www2.bfi.org.uk/sites/bfi.org.uk/files/downloads/bfi-statistical-yearbook-2018.pdf>. Note: USD box office figure converted at an exchange rate of 0.776 £ per USD

**87.** Net profit margin estimated by comparing total gross trading profits across all non-financial industries (published within HMRC's Corporation Tax liabilities calculations) to total turnover across all non-financial industries (published by ONS within the ABS)

**88.** *Profitability of UK companies: April to June 2016.* ONS, 13 October 2016. Accessible at: <https://www.ons.gov.uk/economy/national-accounts/uksectoraccounts/bulletins/profitabilityofukcompanies/aprtojun2016#main-points>

**Table 14****Economic impact of film-related UK brand promotion, 2016-2019 (£m, unless indicated otherwise)**

	2016	2017	2018	2019
Global box office of UK-made films	4,800.0	6,289.0	7,068.0	8,066.0
Exchange rate (£ per USD)	0.74	0.78	0.75	0.78
UK films' box office in UK	440.9	478.3	591.0	596.9
Offshore box office of UK-made films	4,359.2	5,810.5	6,476.7	7,468.9
Adjusted offshore box office of UK-made films <sup>1</sup>	2,179.6	2,905.2	3,238.3	3,734.4
Product placement spending in film as a share of global box office	6.1%	6.5%	6.8%	7.2%
Product placement fees / implied incremental profit margin <sup>2</sup>	133.6	188.4	221.6	268.9
Implied incremental turnover	1,553.2	2,297.9	2,702.4	3,279.0
<b>Total employment impact (FTEs)<sup>3</sup></b>	<b>16,610</b>	<b>23,970</b>	<b>27,080</b>	<b>32,030</b>
<b>Total GVA impact<sup>3</sup></b>	<b>823.2</b>	<b>1,217.9</b>	<b>1,432.3</b>	<b>1,737.9</b>
<b>Total tax revenue impact<sup>3</sup></b>	<b>183.8</b>	<b>280.1</b>	<b>329.4</b>	<b>399.7</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Comscore and Omdia

Notes:

1. 50% of total offshore box office

2. Product placement spending share multiplied by adjusted offshore box office

3. Includes direct, indirect and induced economic impacts

#### 4.5.4. Summary

In total, film-related spillover impacts generated an estimated 51,720 FTEs in 2019 and £2.71 billion in GVA for the UK economy (Table 15).



**Table 15**  
**Summary of film-related spillover impacts, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Inbound tourism	13,490	15,300	16,830	17,660
	Merchandise	1,850	1,930	1,920	2,030
	UK brand promotion	16,610	23,970	27,080	32,030
	<b>Total</b>	<b>31,950</b>	<b>41,200</b>	<b>45,830</b>	<b>51,720</b>
GVA (£m)	Inbound tourism	631.0	733.8	826.6	898.0
	Merchandise	56.3	64.9	66.6	73.5
	UK brand promotion	823.2	1,217.9	1,432.3	1,737.9
	<b>Total</b>	<b>1,510.5</b>	<b>2,016.6</b>	<b>2,325.5</b>	<b>2,709.4</b>
Tax revenue (£m)	Inbound tourism	195.7	227.6	256.5	278.6
	Merchandise	11.3	13.0	13.3	14.7
	UK brand promotion	183.8	280.1	329.4	399.7
	<b>Total</b>	<b>390.8</b>	<b>520.7</b>	<b>599.2</b>	<b>693.0</b>

Source: Olsberg•SPI/Nordicity estimates

## 4.6. Overall economic contribution

Bringing together the impacts of all parts of the value chain and spillovers, the overall economic contribution identified as a result of tax relief-supported film production in 2019 was 120,650 FTEs, £7.68 billion in GVA and £1.89 billion in tax revenue (Table 16).

**Table 16**  
**Summary of overall economic contribution of the UK film sector supported by tax relief, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Total economic impact	63,180	73,000	68,460	68,930
	Spillover impacts	31,950	41,200	45,830	51,720
	<b>Total</b>	<b>95,130</b>	<b>114,200</b>	<b>114,290</b>	<b>120,650</b>
GVA (£m)	Total economic impact	4,162.9	4,929.6	4,906.0	4,975.5
	Spillover impacts	1,510.5	2,016.6	2,325.5	2,709.4
	<b>Total</b>	<b>5,673.4</b>	<b>6,946.1</b>	<b>7,231.5</b>	<b>7,684.9</b>
Tax revenue (£m)	Total economic impact	994.5	1,181.6	1,202.1	1,199.9
	Spillover impacts	390.8	520.7	599.3	693.1
	<b>Total</b>	<b>1,385.3</b>	<b>1,702.2</b>	<b>1,801.4</b>	<b>1,892.9</b>

Source: Olsberg•SPI/Nordicity estimates

## 4.7. Impact of Film Tax Relief

Across the film sector value chain, UK film content generated an estimated £1.53 billion in HM Treasury revenue in 2019, against a total estimated outlay from FTR of £403.2 million. This tax revenue impact included £205.7 million in VAT on the retail sales of cinema tickets, digital subscriptions and transactions, and DVD sales/rentals.<sup>89</sup> The tax impact also included Income Tax, National Insurance Contributions (NIC) and Corporation Tax generated by the employment and economic activity associated with direct, indirect, induced and spillover impacts.

**Table 17**  
**HM Treasury revenue, UK film content, film value chain, 2016-2019 (£m)**

	2016	2017	2018	2019
Direct VAT	156.9	161.3	202.2	205.7
Direct	471.8	548.1	534.5	523.4
Indirect	226.6	292.2	289.9	295.4
Induced	139.3	179.9	175.5	175.4
Spillover	390.8	520.7	599.3	693.1
<b>Total</b>	<b>1,385.3</b>	<b>1,702.2</b>	<b>1,801.4</b>	<b>1,892.9</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, Ofcom, Omdia, ABS, IDBR, BRES, CAA, Comscore, public financial reports, Official Charts Company, BASE, ASHE, ONS and HM Revenue & Customs (HMRC)

To assess the impact of FTR, modelling was used to understand how the total economic contribution of the component of the UK film sector supported by tax relief would change in its absence. To do this, an online survey of producers who used FTR between 2017 and 2019 was conducted. This survey asked about the importance of FTR in production decisions, and the answers were weighted by the relative importance of the domestic and inward investment elements of the sector between 2017 and 2019.<sup>90</sup>

This survey research indicated that, for the 2017-2019 period, 92% of production spending supported by FTR would not have occurred in the absence of the tax relief – ie an additionality rate of 92% existed for the production sub-sector.<sup>91</sup> This rate of additionality was applied to the production sub-sector. The other sub-sectors were discounted to reflect their lower net additionality rates.<sup>92</sup>

<sup>89</sup>. The tax impact modelling assumes that the digital platform (for example, SVoD) spending in UK is subject to 20% VAT. It also assumes that each part of the value chain does not generate non-recoverable VAT on its business-inputs purchases; see Appendix 3 for details of tax calculations

<sup>90</sup>. See Appendix 3 for more details; for the purpose of the additionality research, domestic productions include co-productions

<sup>91</sup>. See Appendix 3 for details

<sup>92</sup>. See Appendix 3 for details of the discounting approach

This high rate of additionality reflects the globally competitive market for production. Major US producers can choose to film in Southern California, other parts of the US, Canada, Australia or numerous other jurisdictions that also offer production incentives, crew base and physical infrastructure. Furthermore, inward investment in film is not subject to the same significant sunk costs to enter a market as manufacturing or services businesses may be subject to (for example, building a manufacturing facility, investing in marketing, securing long leases on premises). For that reason, such inward investment is relatively ‘fleet of foot’ and quickly able to shift its production business to other locations.

Because film production also displays the highest share of inward investment production among the tax reliefs, it also displays the highest rate of additionality.<sup>93</sup> Inward investment production accounts for smaller shares of total production in HETR, ATR and CTR and, for that reason, those tax reliefs display lower rates of additionality compared to FTR.

Since the additionality research conducted for this study only applied to the 2017-2019 period, the additionality rates gathered for and used in previous studies were applied to the 2009-2016 period.<sup>94</sup> For example, an additionality rate of 91% was applied to the 2013-2016 period and drawn from the primary research carried out for *Screen Business* 2018.

Based on additionality rates applied to all the sub-sectors (for example, 92% in 2019), FTR outlays in 2019 yielded a return on investment (RoI) of £8.30 in terms of GVA. This means that each pound of FTR yielded £8.30 of GVA for the UK economy in 2019.

**Table 18**  
**FTR return on investment, 2016-2019**

	2016	2017	2018	2019
Total expenditures	1,871.9	2,220.9	2,061.3	2,015.8
Tax relief outlays <sup>1</sup>	374.4	444.2	412.3	403.2
<b>Overall economic contribution GVA (£m)</b>	<b>5,673.4</b>	<b>6,946.1</b>	<b>7,231.5</b>	<b>7,684.9</b>
Additional GVA (£m)	2,797.2	3,334.3	3,279.8	3,347.7
<b>GVA RoI (£)<sup>2</sup></b>	<b>7.47</b>	<b>7.51</b>	<b>7.96</b>	<b>8.30</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, BARB, Ofcom, Omdia, ABS, IDBR, BRES, CAA, Comscore, public financial reports, Official Charts Company, BASE, ASHE, ONS and HMRC

Notes:

1. Estimated at 20% of total expenditures

2. RoI is measured as pound returned per £1 of tax relief and takes into account the net impacts and tax relief outlays in the specific year

<sup>93</sup>. The share of inward investment within VGTR-supported production has not been examined

<sup>94</sup>. 2013: *Economic Contribution of the UK's Film, High-End TV, Video Game and Animation Programming Sectors*. Olsberg-SPI with Nordicity, 2015. Accessible at: <https://www.o-spi.co.uk/wp-content/uploads/2015/02/SPI-Economic-Contribution-Study-2015-02-24.pdf>  
2011: *The Economic Impact of the UK Film Industry* (2012). Ibid  
2009: *The Economic Impact of the UK Film Industry*. Oxford Economics, 2010. Accessible at: <https://www2.bfi.org.uk/sites/bfi.org.uk/files/downloads/economic-impact-of-the-uk-film-industry-2010-06.pdf>

# THE HIGH-END TELEVISION SECTOR

# 5

## 5.1. Context and key findings

Since High-end Television Tax Relief (HETR) was introduced in 2013, production in the high-end television (HETV) sector has undergone a very substantial increase, with UK expenditure rising from £392.8 million in 2013 – the year that HETR was introduced – to £2.08 billion in 2019.<sup>95, 96</sup>

HETV is defined for tax relief purposes as television programming for which the budget must be at least £1.0 million per slot time hour (which can be pro-rated), is longer than 30 minutes, and is intended for broadcast (including the internet).<sup>97, 98</sup> The UK produces a range of HETV content that attracts significant attention, both within the UK and around the world. Between 2017 and 2019, productions qualifying for HETR included *The White Princess*, *Years and Years* and *I Hate Suzie*.

HETV production investment has increased throughout the UK, contributing to production growth in the UK nations and England's regions. This is evidenced by productions such as *Game of Thrones*, *Derry Girls* and *Line of Duty* in Northern Ireland, *Outlander* and *Shetland* in Scotland and *Sex Education* and *His Dark Materials* in Wales. A broad range of productions has also been made in England's regions, including *Peaky Blinders*, *Gentleman Jack* and *Ackley Bridge*.

In 2019, HETV production spend generated 28,760 direct full-time equivalent (FTE) jobs throughout all parts of the value chain, an increase from 18,600 in 2017. With indirect and induced impacts, HETV generated 64,310 FTEs in total in 2019, an increase from 43,220 in 2018 and 40,760 in 2017.

HETV content, therefore, generated a total economic impact of £3.67 billion in gross value added (GVA) for the UK in 2019, £2.43 billion in 2018 and £2.24 billion in 2017. These represent significant increases from £1.55 billion in 2016.

Significant spillover impacts were also made – particularly in relation to screen tourism.

HETR generated strong returns for HM Treasury over 2017-2019. In 2019, each pound of HETR yielded an additional £6.44 in GVA for the UK economy.

### Note

2016 data have been revised from the previous edition of *Screen Business* to account for updates in projects tracked by the BFI since publication. For example, when *Screen Business* was published in 2018, total HETV expenditure for 2016 was reported by the BFI to be £896.7 million. This total has since been revised to £977.2 million. Analysis in this chapter is based on projects certified to the end of 2020 only, so data may change in time as new applications for the years in question are submitted.

<sup>95</sup>. 2013 total sourced from the BFI Research and Statistics Unit

<sup>96</sup>. *Film, high-end television and animation programmes production in the UK: full-year 2020*. Ibid

<sup>97</sup>. *British Certification and Tax Relief*. The BFI, 2019. Accessible at: <https://core-cms.bfi.org.uk/media/87/download>

<sup>98</sup>. Episodes of 30 minutes or less can qualify for tax relief when commissioned together, as programmes commissioned together are treated as one programme. The £1 million average core spend per slot hour requirement would still need to be met

## 5.2. Value chain overview

As with the film sector, this assessment of the economic contribution of HETV has been focused on projects which qualify for HETR, and not the entire UK television and digital platform sector. Similarly, the economic contribution of HETV has been analysed using a value chain approach that included the economic contribution made by HETV content across the production, distribution, television broadcast and video platform components of the value chain.

The television broadcast component of the value chain has, traditionally, been the primary window for the release of television content.<sup>99</sup> However, the role of other platforms in stimulating HETV production investment in the UK – in particular video-on-demand (VoD) and subscription video-on-demand (SVoD) platforms – has been increasing rapidly in recent years.

While such streaming platforms typically began by acquiring content produced for television broadcast, they now represent major primary windows in their own right. It should also be noted that films produced by streaming platforms can qualify for HETR rather than Film Tax Relief (FTR), as films must be intended for theatrical release to access FTR.<sup>100</sup> Some films produced by streaming platforms may be released theatrically. Qualification of such films for HETR is likely to be a factor in the increase in expenditure and impact outlined in this section, in addition to the increased investment in drama, comedy and documentary series.

For the HETV sector, the value chain begins with the conception and development of a project. This may be undertaken in-house at a broadcaster or streaming platform, or by an external production company which will then seek a commission from a broadcaster or streaming platform. In contrast to the film sector, HETV projects normally go straight to broadcast or streaming from the completion stage, without a distributor as an intermediary.

Depending on the project and its structure, a distribution element may also be present in the value chain. For example, a production company or third party may also secure further economic activity through secondary distribution to other broadcasters or platforms outside of the primary window and territorial market.

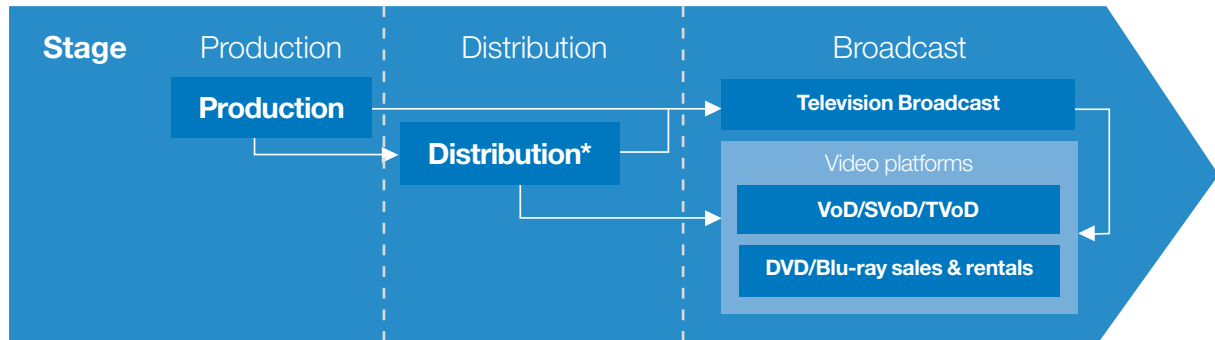
Consumers also use streaming platforms and physical video as ways to catch up with HETV content which has already premiered, or even as their primary way to watch such content. Because of this, viewing of HETV in the video platforms sub-sector – particularly through VoD and SVoD – can either follow or precede viewing on broadcast television.

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<sup>99</sup>. For the purposes of this study, the definition of television broadcast includes public service broadcaster channels, commercial channels, and platform operators including Sky TV, Virgin Media, BT TV and TalkTalk subscriber revenue (excluding revenue from broadband and telephony). The definition of television broadcast also excludes digital video platforms (SVoD, VoD and TVoD) and online video advertising revenue from catch-up services

<sup>100</sup>. *About UK creative industry tax reliefs*. The BFI webpage. Accessible at: <https://www.bfi.org.uk/apply-british-certification-tax-relief/about-uk-creative-industry-tax-reliefs>

**Figure 18**  
**HETV value chain**



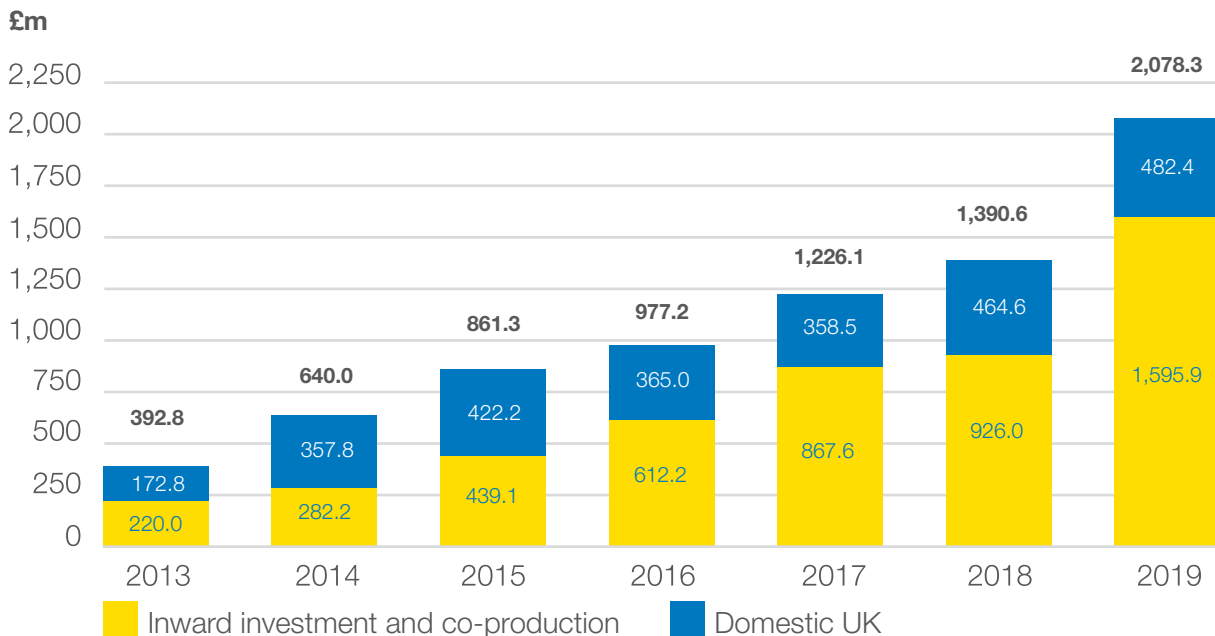
\* A distributor may or may not be involved, depending on the structure of the production

## 5.3. Direct impact

### 5.3.1. Production

Statistics compiled by the BFI indicate that £2.08 billion was spent on the production of qualifying HETV content in the UK during 2019. This expenditure included £482.4 million in domestic UK productions, and just under £1.60 billion in inward investment and co-production spend, or 76.8% of the total. <sup>101, 102</sup>

**Figure 19**  
**UK spend on HETV, 2013-2019 (£m)**



Source: The BFI

Note:

Spend is allocated to the year in which principal photography started, or to the year in which the visual effects (VFX) were undertaken in the case of projects utilising HETR for VFX-only production, rather than physical production

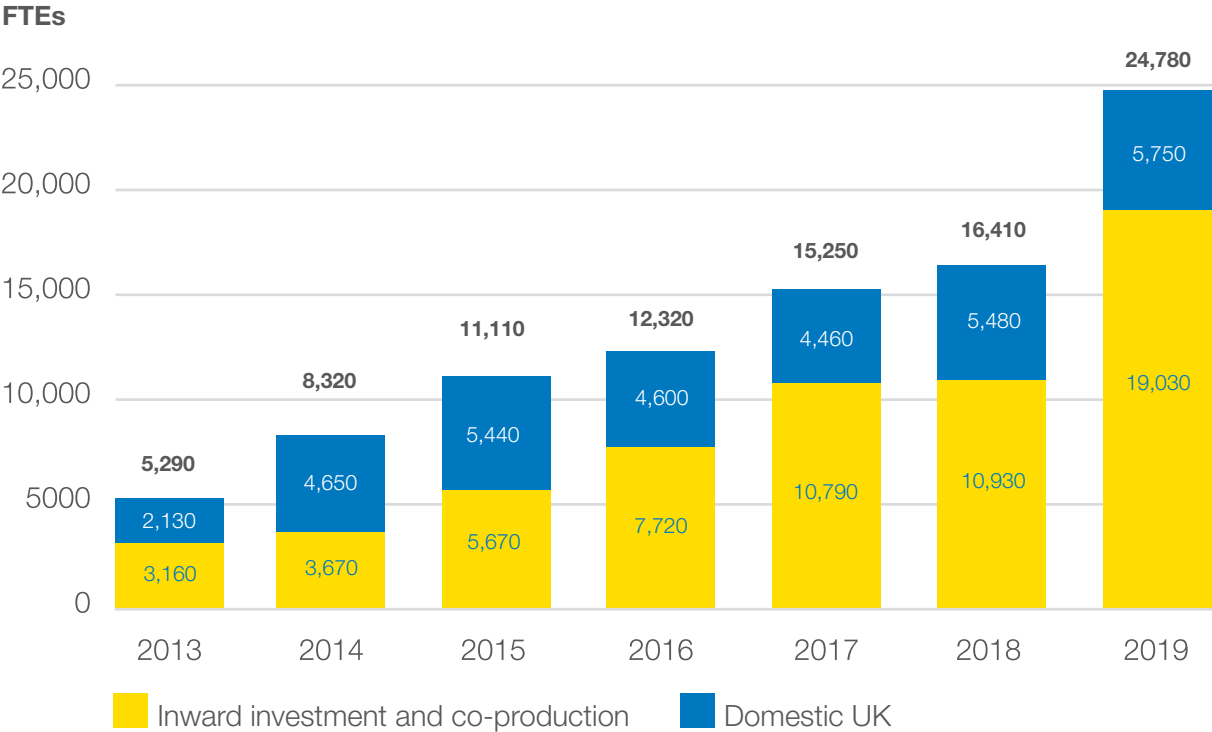
**101.** UK production spend supported by the tax relief also generates funding for the Creative Skillset Skills Investment Fund through the HETV Skills Levy; set at 0.5% of core UK expenditure in voluntary contributions, this generated £2.6 million from 105 productions in 2017-2018. *Booming production in High-end TV delivers record levy contributions*. ScreenSkills, 23 April 2018. Accessible at: <https://www.screenskills.com/about-us/press-releases/booming-production-in-high-end-tv-delivers-record-levy-contributions/>

**102.** Co-productions are included with inward investment as a reflection of how data are presented in the BFI Statistical Yearbook

The results of the Job Creation Model were used to estimate the direct impact of this HETV spending in terms of employment, compensation of employment (CoE) and GVA. This model provided a breakdown of production budgets in different ranges and genres across film and HETV, which enabled the number of FTEs created by different types or genres of HETV production to be estimated. It also provided estimates of the proportion of production spend devoted to direct CoE (the direct CoE ratio) and GVA (the GVA ratio).<sup>103</sup>

The results of this analysis indicate that HETV production generated 12.4 direct FTEs per million pounds spent on production in 2017 (the FTE ratio), declining to 11.9 direct FTEs in 2019 (due to average wage inflation). Based on these FTE ratios, HETV production generated 15,250 FTEs in 2017, increasing to 24,780 FTEs in 2019 (Figure 20).

**Figure 20**  
**Direct employment generated by HETV production in the UK (FTEs)**



Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, the Annual Business Survey (ABS) and ASHE

The Job Creation Model also indicated that each £1 million of HETV production generated £0.49 million in direct employment compensation, and £0.58 million in direct GVA. This implies that the total £2.08 billion in HETV production in the UK in 2019 generated £1.01 billion in direct employment compensation, and £1.20 billion in direct GVA (Table 19).

<sup>103</sup>. See Section 4.3.1. for a description of the Job Creation Model



**Table 19**  
**Direct economic impact of HETV production**

	2016	2017	2018	2019
UK spend (£m)	977.2	1,226.1	1,390.6	2,078.3
Employment (FTEs)	12,320	15,250	16,410	24,780
CoE (£m)	473.9	594.7	674.4	1,008.0
GVA (£m)	563.8	707.5	802.4	1,199.2

Source: Olsberg+SPI/Nordicity estimates based on data from the BFI, ABS and ASHE

Note:

See Appendix 3 for description of methodology

### 5.3.2. Television broadcast

When HETV content is broadcast on television, economic value is generated for UK broadcasters. To estimate the contribution of HETV to the UK's broadcast sector, an estimation was made of the value that HETV supplies to broadcasters' turnover, employment, employment compensation and GVA by virtue of the audience value that HETV content attracts, and the net advertising sales that these audiences generate for commercial broadcasters.

To estimate this contribution, the BFI analysed the audience ratings for HETV titles that have accessed the tax relief since its introduction.<sup>104</sup> This analysis established the audience for each HETV title airing on commercial television in the UK.

The results of this audience analysis indicated that, in 2017, HETV content accounted for 9.4% of total audiences for commercial broadcasters and for the BBC. This economic share was multiplied by the total 2017 television broadcasting sector revenue (including net advertising, BBC income, subscription revenue and other television revenue) of £13.41 billion, to arrive at estimated attributable revenue of £1.26 billion.<sup>105</sup> The television broadcast sector revenue attributable to HETV generated 2,680 FTEs of direct employment in 2017, £126.1 million in direct employment compensation and £252.1 million in direct GVA (Table 22).<sup>106</sup>

By 2019, the audience share of HETV content had risen to 12.9%. As a result, attributable revenue was £1.71 billion and the direct economic impact was equal to 3,050 FTEs, £170.7 million in employment compensation and £307.2 million in GVA (Table 22).

<sup>104</sup>. See Appendix 3 for a description of the methodology

<sup>105</sup>. Throughout this study, the term 'economic share' is used to refer to the share of total economic activity (ie employment, employment compensation and GVA) in a specific sub-sector that can be attributed to tax relief-supported content. This economic share is derived by using the audience share of tax relief-supported content to estimate the portion of sub-sector revenue that can be attributed to the content. See Appendix 3 for additional description

<sup>106</sup>. See earlier footnote on the definition of television broadcast

**Table 20**  
**Calculation of HETR viewing share**

	2017	2018	2019
HETR viewing minutes (millions)	170.7	161.0	200.3
Total minutes of viewing to all channels (in BARB sample) (millions)	1,824.1	1,678.9	1,547.4
<b>HETR viewing share</b>	<b>9.4%</b>	<b>9.6%</b>	<b>12.9%</b>

Source: The BFI and BARB

**Table 21**  
**Total revenue in the UK broadcasting sector (£m)**

	2017	2018	2019
PSB channels <sup>1</sup>	4,744.7	4,710.5	4,595.7
Commercial multi-channels	2,517.2	2,474.4	2,350.7
Platform operators <sup>2</sup>	6,148.7	6,342.5	6,284.0
<b>Total</b>	<b>13,410.6</b>	<b>13,527.5</b>	<b>13,230.5</b>

Source: Ofcom

Notes:

Figures may not sum to totals due to rounding

1. Includes commercial revenue sources and income from household licence fees and grant-in-aid

2. Platform operators includes Sky TV, Virgin Media, BT TV and TalkTalk subscriber revenue (excluding revenue from broadband and telephony), but excludes revenue of digital video platforms (SVoD, VoD and TVoD) and online video advertising revenue from catch-up services

**Table 22**  
**Direct economic impact of HETV on UK television**

	2016 <sup>1</sup>	2017	2018	2019
Economic share	4.2%	9.4%	9.6%	12.9%
Attributable revenue (£m)	574.8	1,260.6	1,298.6	1,706.7
Employment (FTEs)	1,300	2,680	2,630	3,050
CoE (£m)	63.2	126.1	129.9	170.7
GVA (£m)	206.9	252.1	194.8	307.2

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, BARB, Ofcom, ABS and ASHE

Notes:

See Appendix 3, Sections 18.1.2. and 18.6.1. for description of methodology

1. The economic share for 2016 has been calculated using a different methodology than used for 2017 to 2019. For that reason, the economic share and subsequent economic impact results for 2016 are not directly comparable to those for 2017 to 2019. See Appendix 3 for description of methodology

### 5.3.3. Distribution

HETV content is typically commissioned by a broadcaster, streaming platform or other entity. While models differ, some projects may be fully funded by the commissioner, while for other projects the fees paid for licensing may not cover the entire cost of production. Therefore, distribution companies and production companies with distribution arms may look to sell programmes to other territories, to other consumer platforms, and for subsequent broadcast windows in the original broadcast territories (ie secondary release windows or syndication). The revenues from this activity provide a key means of funding the gap in programme production costs.

The large audiences that HETV productions have attracted in recent years also drive value in the distribution market. Where the rights for a programme are held by UK companies, this will consequently generate GVA and employment for the UK economy, in the same way as for the film sector.

To estimate the employment impact in the distribution sub-sector resulting from the exploitation of HETV productions, the economic share established for the broadcasting market (for example, 12.9% in 2019) was first adjusted to take into account that not all genres of television programming (such as news programming) are subject to a significant degree of distribution following transmission. This exercise raised the economic share of HETV content in each year (for example, 21.3% in 2019).<sup>107</sup>

This adjusted economic share of 21.3% was used to estimate the portion of overall economic activity in the UK's television distribution market that could reasonably be attributed to HETV. It was applied on a pro-rata basis to the total turnover, employment, employment compensation and GVA in *SIC 59.13/3, Television programme distribution activities* to estimate the portion reasonably attributable to HETV. Based on this approach, HETV generated an estimated £484.3 million in distribution turnover in 2019. This turnover subsequently generated 340 direct FTEs, £33.8 million in direct employment compensation and £167.7 million in GVA for the television distribution sub-sector in 2019 (Table 23).

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<sup>107</sup>. See Appendix 3 for description of methodology

**Table 23**  
**Direct economic impact of distribution of HETV**

	2016 <sup>1</sup>	2017	2018	2019
Economic share of television broadcast market	4.2%	9.4%	9.6%	12.9%
Economic share of television distribution market	7.1%	15.4%	15.8%	21.3%
Attributable revenue (£m)	63.9	238.3	257.2	484.3
Employment (FTEs)	40	100	270	340
CoE (£m)	4.0	18.5	24.5	33.8
GVA (£m)	19.8	82.2	105.0	167.7

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, ABS and ASHE

Notes:

See Appendix 3 for description of methodology

1. The economic share for 2016 has been calculated using a different methodology than used for 2017 to 2019. For that reason, the economic share and subsequent economic impact results for 2016 are not directly comparable to those for 2017 to 2019

### 5.3.4. Video platforms

As with the film sector, the HETV sector also generates economic value for the UK through video platforms. This includes digital VoD platforms, as well as physical video.

Once again, adjustments were made to the economic share in the television broadcast market (for example, 12.9% in 2019) to reflect the fact that certain genres drive consumption of the digital and physical video markets more than others. This exercise raised the economic share of HETV content on video platforms to 39.4% in 2019.<sup>108</sup>

Data on the financial performance and employment at leading SVoD platforms in the UK, as well as data on financial performance and – in the case of physical video – economic activity in *SIC 47, Retail trade, except motor vehicles and motorcycles* were used to derive estimates of direct economic impact. Based on this approach, HETV generated 590 FTEs of direct employment, £37.8 million in direct employment compensation and £124.5 million in direct GVA in the video platforms segment in 2019 (Table 24).

<sup>108</sup>. See Appendix 3 for description of methodology

**Table 24**  
**Direct economic impact of HETV on video platforms**

		2016	2017	2018	2019
Digital video	Value of HETV (£m)	167.8	482.1	563.8	852.9
	Employment (FTEs)	50	150	180	290
	CoE (£m)	5.5	16.1	19.3	30.5
	GVA (£m)	20.3	59.1	70.6	111.7
Physical video	Value of HETV (£m)	42.4	73.8	52.0	54.7
	Employment (FTEs)	240	420	280	300
	CoE (£m)	5.2	9.3	6.5	7.3
	GVA (£m)	6.4	16.0	11.6	12.8
<b>Total</b>	Value of HETV (£m)	<b>210.2</b>	<b>555.9</b>	<b>615.8</b>	<b>907.6</b>
	Employment (FTEs)	<b>290</b>	<b>570</b>	<b>460</b>	<b>590</b>
	CoE (£m)	<b>10.7</b>	<b>25.4</b>	<b>25.8</b>	<b>37.8</b>
	GVA (£m)	<b>26.7</b>	<b>75.0</b>	<b>82.2</b>	<b>124.5</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Omdia, ABS, Attentional, BARB, public financial reports and ASHE

Notes:

Figures may not sum to totals due to rounding  
 See Appendix 3 for description of methodology

### 5.3.5. Summary of direct economic impact

Combining the estimates of economic activity from the four components of the value chain, it can be concluded that the HETV sector generated 28,760 FTEs of direct employment, £1.27 billion in direct employment compensation and £1.80 billion in direct GVA in 2019 (Table 25).

**Table 25**  
**Summary of direct economic impact of HETV across the value chain**

		Production	Distribution	TV broadcast	Video platforms†	Total
Employment (FTEs)	2016	12,320	40	1,300	290	<b>13,950</b>
	2017	15,250	100	2,680	570	<b>18,600</b>
	2018	16,410	270	2,630	460	<b>19,770</b>
	2019	24,780	340	3,050	590	<b>28,760</b>
CoE (£m)	2016	473.9	4.0	63.2	10.7	<b>552.0</b>
	2017	594.7	18.5	126.1	25.4	<b>764.6</b>
	2018	674.4	24.5	129.9	25.8	<b>854.6</b>
	2019	1,008.0	33.8	189.5	37.8	<b>1,269.1</b>
GVA (£m)	2016	563.8	19.8	206.9	26.7	<b>817.3</b>
	2017	707.5	82.2	252.1	75.0	<b>1,116.8</b>
	2018	802.4	105.0	194.8	82.2	<b>1,184.3</b>
	2019	1,199.2	167.7	307.2	124.5	<b>1,798.7</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, public financial reports and ASHE

Notes:

Figures may not sum to totals due to rounding

See Appendix 3 for description of methodology

† Includes physical video sales and rentals, and digital video platforms (ie VoD/SVoD/TVoD)

## 5.4. Total economic impact

As with the other sectors in this study, the various segments of the HETV value chain – from production to video platforms – generate indirect impacts through the purchase of services and supplies, and induced impacts through the re-spending of wages by those employed in the direct and indirect impact phases.

The total economic impact is equal to the sum of the direct, indirect and induced impacts.

To identify the indirect and induced impacts of HETV production spending – as with film – a bespoke model was generated through Office for National Statistics (ONS) input-output (I-O) tables. For this approach, the goods and services purchased by a generic HETV production were categorised and put into a model derived from ONS data. The impact of these purchases was then estimated, industry by industry, to identify the incremental employment, employment compensation, and GVA that would be generated, using the ONS tables to identify the connections among the various sectors of the UK economy.<sup>109</sup>

<sup>109</sup>. This approach is detailed in Appendix 3

This model indicated that HETV generated a total economic impact of 64,310 FTEs, £2.34 billion in employment compensation and £3.67 billion in GVA (Table 26).

**Table 26**

**Total economic impact generated by HETV throughout all parts of the value chain, 2019**

		Production	Distribution	TV broadcast	Video platforms†	Total
Employment (FTEs)	Direct	24,780	340	3,050	590	<b>28,760</b>
	Indirect	14,550	2,040	2,810	2,730	<b>22,130</b>
	Induced	9,830	860	1,310	1,420	<b>13,420</b>
	<b>Total</b>	<b>49,160</b>	<b>3,240</b>	<b>7,170</b>	<b>4,740</b>	<b>64,310</b>
CoE (£m)	Direct	1,008.0	33.8	189.5	37.8	<b>1,269.1</b>
	Indirect	397.0	60.4	86.2	80.2	<b>623.8</b>
	Induced	351.2	24.9	35.4	38.2	<b>449.7</b>
	<b>Total</b>	<b>1,756.2</b>	<b>119.2</b>	<b>311.1</b>	<b>156.2</b>	<b>2,342.6</b>
GVA (£m)	Direct	1,199.2	167.7	307.2	124.5	<b>1,798.7</b>
	Indirect	760.7	113.3	169.9	161.9	<b>1,205.8</b>
	Induced	490.5	45.4	64.4	69.6	<b>669.9</b>
	<b>Total</b>	<b>2,450.3</b>	<b>326.4</b>	<b>541.5</b>	<b>356.0</b>	<b>3,674.3</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, BARB, Ofcom, Omdia, ABS, public financial reports and ASHE

Notes:

Figures may not sum to totals due to rounding

See Appendix 3 for description of methodology

† Includes physical video sales and rentals, and digital video platforms (ie VoD/SVoD/TVoD)

## 5.5. Time series statistics

As with the film sector, an analysis of trends was undertaken (Table 27). This analysis shows the employment generated by HETV increased by over 20,000 FTEs between 2017 and 2019. Over that period, the GVA impact of HETV increased by 63.8%.

**Table 27**  
**Time series impact data, HETR-supported programming throughout all parts of the value chain, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	13,950	18,600	19,770	28,760
	Indirect	9,200	13,820	14,550	22,130
	Induced	5,760	8,340	8,900	13,420
	<b>Total</b>	<b>28,910</b>	<b>40,760</b>	<b>43,220</b>	<b>64,310</b>
CoE (£m)	Direct	552.0	764.6	854.6	1,269.1
	Indirect	242.7	376.0	413.7	623.8
	Induced	188.9	269.8	300.8	449.7
	<b>Total</b>	<b>983.6</b>	<b>1,410.4</b>	<b>1,569.1</b>	<b>2,342.6</b>
GVA (£m)	Direct	817.3	1,116.8	1,184.3	1,798.7
	Indirect	462.7	725.0	799.1	1,205.8
	Induced	273.9	401.2	448.0	669.9
	<b>Total</b>	<b>1,553.9</b>	<b>2,242.9</b>	<b>2,431.5</b>	<b>3,674.3</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, BARB, Ofcom, Omdia, ABS, public financial reports and ASHE

Notes:

Figures may not sum to totals due to rounding

See Appendix 5 for additional historical statistics



# 5.6. Spillover impacts

Similar to film, there are spillovers to other sectors from the HETV sector. In this section, the economic impact of HETV spillovers on the tourism sector are presented.

## 5.6.1. Inbound tourism

With the global popularity of UK-made HETV shows, such as *Game of Thrones*, *Outlander*, *Shetland*, *Poldark* and *Peaky Blinders*, overseas tourism to filming locations in the UK is strong.

As an example, Tourism NI has estimated that because of *Game of Thrones* 350,000 leisure visitors – or one in six – visit Northern Ireland annually, spending in excess of £50 million.<sup>110</sup> According to data from the West Midlands Growth Company reported in *The Guardian*, Birmingham’s visitor numbers increased by 26% between 2013 – when the first season of *Peaky Blinders* aired on the BBC – and 2018.<sup>111</sup>

As with film, the methodology used in the 2015 equivalent and 2018 edition of *Screen Business* was updated with the most recently released data to estimate the economic impact of HETV tourism. This addresses only non-UK tourists coming to the UK.

In 2017, inbound tourists spent an estimated £344.6 million in HETV-related screen tourism in the UK. This is estimated to have increased to £499.7 million in 2019. This spending generated 7,560 FTEs of total employment (ie including direct, indirect and induced impacts) in 2017, increasing to 10,310 FTEs in 2019. The GVA impact of HETV-related screen tourism was an estimated £346.7 million in 2017, increasing to £502.7 million in 2019. This economic activity yielded an estimated £109.0 million in tax revenue in 2017, increasing to £158.1 million in 2019.

**Table 28**  
**Economic impact of HETV-related screen tourism, 2016-2019**

	2016	2017	2018	2019
Spending (£m)	266.5	344.6	426.1	499.7
Total employment impact (FTEs) <sup>1</sup>	5,990	7,560	9,100	10,310
Total GVA impact (£m) <sup>1</sup>	268.1	346.7	428.7	502.7
Total tax revenue impact (£m) <sup>1</sup>	84.3	109.0	134.8	158.1

Source: Olsberg•SPI/Nordicity estimates  
 Note:  
 1. Includes direct, indirect and induced economic impacts

<sup>110</sup>. *Building the Value of Tourism*. Tourism NI Annual Review, 2019. Accessible at: <https://www.tourismni.com/globalassets/about-tourism-ni/tourism-ni-annual-review/the-value-of-tourism-2019-review.pdf>  
<sup>111</sup>. This article also quotes Andy Street, Mayor of the West Midlands: ‘The Peaky effect is really gaining momentum here, with tours and events in the West Midlands selling out months in advance. Record numbers of tourists are now visiting the region, with many people wanting to explore the places and stories associated with the show.’ *Peaky Blinders mania puts Birmingham on global ‘screen tourism’ map*. *The Guardian*, 2 September 2019. Accessible at: <https://www.theguardian.com/uk-news/2019/sep/02/peaky-blinders-mania-birmingham-screen-tourism-boom>

## 5.7. Overall economic contribution

Bringing together the impacts throughout all parts of the value chain and spillovers, the overall economic contribution identified as a result of UK HETV production supported by tax relief in 2019 generated 74,620 in FTEs, £4.18 billion in GVA and £1.26 billion in tax revenue for the UK (Table 29).

**Table 29**  
**Summary of overall economic contribution of UK HETV sector supported by tax relief, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Total economic impact	28,910	40,760	43,220	64,310
	Spillover impacts	5,990	7,560	9,100	10,310
	<b>Total</b>	<b>34,900</b>	<b>48,320</b>	<b>52,320</b>	<b>74,620</b>
GVA (£m)	Total economic impact	1,553.9	2,242.9	2,431.5	3,674.3
	Spillover impacts	268.1	346.7	428.7	502.7
	<b>Total</b>	<b>1,822.0</b>	<b>2,589.6</b>	<b>2,860.2</b>	<b>4,177.0</b>
Tax revenue (£m)	Total economic impact	413.3	667.7	743.3	1,105.0
	Spillover impacts	84.3	109.0	134.8	158.1
	<b>Total</b>	<b>497.6</b>	<b>776.7</b>	<b>878.1</b>	<b>1,263.1</b>

Source: Olsberg•SPI/Nordicity estimates

## 5.8. Impact of High-end Television Tax Relief

The creation of HETV content generated an estimated £1.26 billion in tax revenue in 2019, including £167.1 million in VAT on video platforms subscriptions and transactions, and just under £1.1 billion in other taxes (Income Tax, NIC, Corporation Tax).<sup>112</sup>

**Table 30**  
**HM Treasury revenue generated by HETV content, 2016-2019 (£m)**

	2016	2017	2018	2019
Direct VAT	35.7	95.7	108.3	167.1
Direct	216.6	310.2	343.1	500.9
Indirect	94.2	156.6	174.0	261.2
Induced	66.8	105.1	117.9	175.8
Spillovers	84.3	109.0	134.8	158.1
<b>Total</b>	<b>497.6</b>	<b>776.7</b>	<b>878.1</b>	<b>1,263.1</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, BARB, Ofcom, Omdia, ABS, IDBR, BRES, CAA, public financial reports, ASHE, ONS and HM Revenue & Customs (HMRC)

Notes:

Figures may not sum to totals due to rounding

See Appendix 3 for methodology

To assess the impact of HETR, a survey of production companies was conducted to ascertain the portion of HETV production that would have occurred in the absence of HETR and, therefore, the rate of additionality applicable to the existing level of HETV production. This survey research indicated an additionality rate of 84%, which was applied to the production sub-sector, while other sub-sectors were discounted to reflect their lower net additionality.<sup>113</sup>

Based on the net additionality rates applied to all sub-sectors, HETR outlays in 2019 yielded a RoI of £6.44 in terms of GVA. This means that each pound of HETR yielded £6.44 of GVA for the UK economy during 2019.

While total expenditure increased significantly between 2018 and 2019, RoI actually decreased between 2018 and 2019. This is due to the lag between production and the economic impact of screen tourism. The economic model created for *Screen Business* accounts for the lag between production and its subsequent effects on generating tourism. This results in reduced RoI because tax relief is being paid out on increased production in the short term, while one of the key sources of additional economic benefit – screen tourism – is not yet appearing as a return in the model.

<sup>112</sup>. See Appendix 3 for details of tax revenue calculation

<sup>113</sup>. See Appendix 3 for details of the discounted additionality rate

**Table 31**  
**HETR return on investment, 2016-2019**

	2016	2017	2018	2019
Total expenditures (£m)	977.2	1,226.1	1,390.6	2,078.3
Tax relief outlays (£m) <sup>1</sup>	195.4	245.2	278.1	415.7
Additional GVA (£m)	1,169.2	1,635.6	1,869.6	2,676.6
<b>GVA RoI<sup>2</sup> (£)</b>	<b>5.98</b>	<b>6.67</b>	<b>6.72</b>	<b>6.44</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, BARB, Ofcom, Omdia, ABS, IDBR, BRES, public financial reports, ASHE, ONS and HMRC

Notes:

1. Estimated at 20% of total expenditures

2. RoI is measured as pound returned per £1 of tax relief and takes into account the net impacts and tax relief outlays in the specific year

# THE VIDEO GAMES SECTOR

6

## 6.1. Context and key findings

### Note

Following the 2018 edition of *Screen Business*, this represents the second evaluation of VGTR undertaken. This has provided further opportunity to consider the difference in development processes between the video games and film and television sectors.

Due to the video game development process, and the way in which the VGTR is used by developers, there can be a very significant lag in reporting and it can take several years for actual expenditure figures to consolidate. On information currently available from the BFI, the profile of video games expenditure supported by the tax relief therefore gives a false impression of an expenditure decline.

Because of this, it is currently not possible to present accurate figures on the annual expenditure supported by VGTR from 2017-2019 using the same economic impact methodology used for the other screen sectors. It has therefore been necessary to implement a different methodology.

To calculate impacts, the year-to-year growth in VGTR payments reported by HMRC for 2016/17 to 2018/19 (accrual basis) was applied to the total development spending supported by VGTR in 2016 (as reported by the BFI) to estimate the levels of VGTR-supported development spending in 2017, 2018 and 2019.

The methodology for measuring additionality for VGTR was also harmonised with the approach used for other tax reliefs in this study. This has resulted in a lower RoI that is not directly comparable to the previous edition of *Screen Business*.

The methodology is outlined in Appendix 3.

Note: 2016 data have been revised from the previous edition of *Screen Business* to account for updates in projects tracked by the BFI since publication.

The video games sector is a significant component of the UK screen landscape, with UK-made video games – such as *Red Dead Redemption 2*, *Forza Horizon 4*, *Hellblade: Senua's Sacrifice*, *Elite Dangerous*, *Rust* and the *Football Manager* series – making major commercial and cultural impacts.

The UK Government introduced Video Games Tax Relief (VGTR) from April 2014.<sup>114</sup> In 2017, expenditure on video games development supported by VGTR was an estimated £700.8 million. In 2018, it was estimated to be £791.0 million and in 2019 it was an estimated £860.4 million.

In 2019, total turnover in the sector was estimated at £2.77 billion – of which an estimated £860.4 million was devoted to development spending that accessed VGTR.<sup>115</sup>

In 2019, VGTR-supported video games development directly contributed £559.3 million to the UK's GDP and 5,390 full-time equivalent (FTE) jobs.

<sup>114</sup>. *Video games tax relief passes final hurdle*. Gov.uk webpage, 27 March 2014 and updated 7 April 2014. Accessible at: <https://www.gov.uk/government/news/video-games-tax-relief-passes-final-hurdle>

<sup>115</sup>. Figure of £2.77 billion drawn from analysis of companies in Ukie's UK Games Map

Throughout all parts of the value chain in 2019, this VGTR-supported spend generated £592.7 million in direct gross value added (GVA), and 5,640 direct full-time equivalent (FTE) jobs.

Including indirect and induced impact across the value chain, the VGTR-supported sector generated an estimated 15,030 FTEs and £1.06 billion in GVA in 2019.

The major source of spillover effects from the sector is to the retail sector, through related merchandise (as opposed to the sales of video games themselves). Bringing in these spillovers, the total economic contribution of VGTR-supported games rises to 15,130 FTEs, with £1.07 billion in GVA contributions in 2019.

VGTR-supported development generates strong returns for HM Treasury. In 2019, each pound of VGTR granted leveraged an additional £1.72 in economic activity for the UK economy.

The sector is also a driver of cutting-edge innovation in areas such as artificial intelligence, virtual reality and augmented reality and the fast-growing global esports arena. The impact of video games innovations also extends into other screen sectors – such as the use of video game engine technology in film and television production.<sup>116</sup> Video games also innovate by creating new forms of storytelling and story engagement.<sup>117</sup>

## 6.2. Value chain overview

As with the other sectors in this study, a value chain model has been used to analyse the impact of content produced through VGTR.<sup>118</sup> This value chain begins with the development stage, through which studios – both independent and publisher-affiliated – conceive ideas for video games and build these through programming and artistic design.

This generally requires the engagement of publishers who purchase the rights to sell video games at an early stage of development, providing finance for the making of the project.

There is also increasing use of self-publishing by developers, and digital platforms have enabled many more businesses to self-publish – particularly at the smaller scale. Nevertheless, publishers remain a critical part of the marketplace and many larger publishers may also have in-house or wholly-owned development studios.

The final component of the value chain is supply and consumption, the stage at which the purchaser – or player – acquires or accesses the video game. Digital distributors and storefronts such as Steam, the App Store and Google Play are the norm for the video games sector and comprise the majority of UK consumer spend.

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**116.** See virtual production case study in Section 14.3. While not examined in this study, video games innovations can also impact other sectors such as transport and health

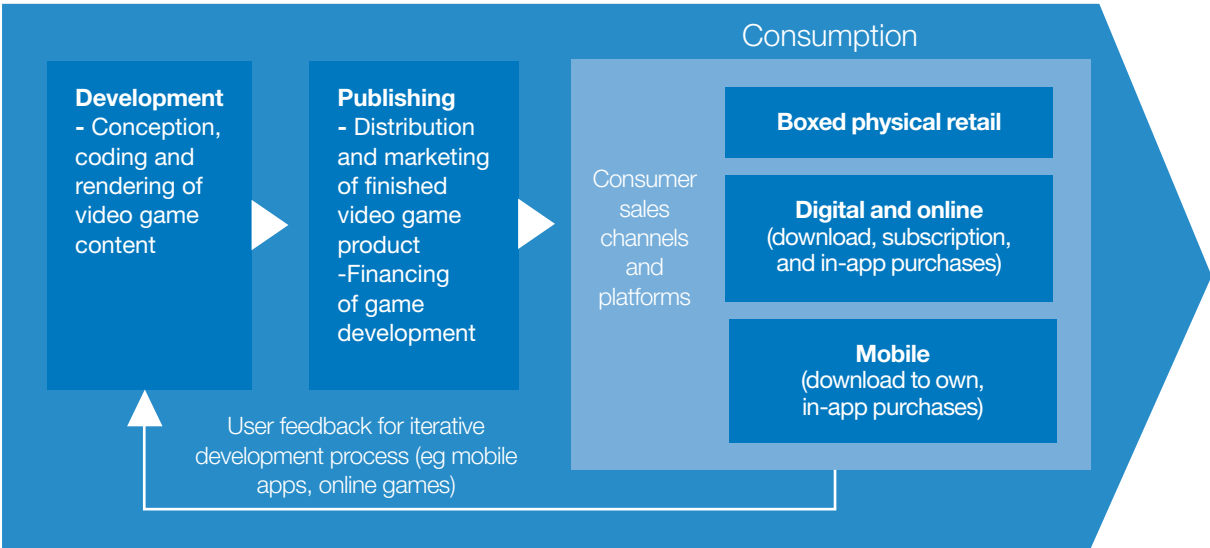
**117.** A case study of Media Molecule's *Dreams* is included in Section 14.5.

**118.** A wider analysis of the impact of the UK video games sector – including non-VGTR supported production – can be found in Appendix 1

However, unlike other sectors in this study, digital platforms play an additional role in the video games market. While films and television programmes are generally not altered after release, digital platforms have allowed games to shift to include a “post launch” development cycle, in which improvements, adaptations and new content can continue to be provided to the player after the point of purchase.

Consumption platforms are based around the European Union, using the single market to sell into all EU and EEA jurisdictions. As such, the economic contribution of those platforms based outside the UK to the UK economy in the period covered by this study may be negligible, unlike those based in the UK.<sup>119</sup> Despite this, their impact has been evaluated in order to maintain consistency with the other sectors.

**Figure 21**  
**Video games sector value chain**



Although VGTR is an important support measure within the UK’s video games sector, some video games projects do not access VGTR for various reasons. This may relate to the fact that a project is not eligible for the tax relief, or that developers may opt instead to use the UK’s Research and Development Tax Relief.<sup>120</sup>

As such, an analysis has also been undertaken to consider the value of the non-tax relief video games sector, which is included in Appendix 1.

<sup>119</sup>. The UK was a member of the European Union during the period covered by this study and thus platforms utilised the Single Market to sell into the UK

<sup>120</sup>. Companies can choose to use either one of these tax reliefs for certain aspects of spending, but cannot use both



## 6.3. Direct impact

### 6.3.1. Development

To estimate the total value of spending, employment, compensation of employment (CoE) and gross value added (GVA) associated with VGTR, data from Ukie's UK Games Map was combined with research originally conducted by Ortus Economic Research (Ortus) for 2016 and updated by Olsberg•SPI and Nordicity, granular company research from Ukie, and the results of video games sector research conducted by Nordicity for the Entertainment Software Association of Canada (ESAC):<sup>121</sup>

- The UK Games Map provided a detailed list of companies engaged in video games development in the UK
- Data provided by Ortus Economic Research was combined with research conducted by Olsberg•SPI, Nordicity and Ukie to assign actual or estimated levels of employment and GVA to each company for 2016
- For 2017 to 2019, Olsberg•SPI, Nordicity and Ukie conducted research to assign actual or estimated levels of employment and GVA to each company
- These company-based statistics were aggregated to arrive at annual estimates of GVA. For 2019, GVA was estimated at £1.80 billion
- Survey research conducted for ESAC indicated that the average GVA-to-turnover ratio among video games developers located in Canada was 0.66 in 2016.<sup>122</sup> For 2017 to 2019, the GVA-to-output ratio reported by the Office for National Statistics (ONS) for *SIC 62.01/1, Ready-made interactive leisure and entertainment software development* was used. Based on these GVA ratios, overall revenue in the UK's development sub-sector was an estimated £2.77 billion in 2019

The UK Games Map and the associated company research conducted by Ortus, Ukie, Olsberg•SPI and Nordicity also indicated that development companies in the UK employed 17,937 people in 2019. This total employment was converted to FTEs using a conversion factor of 0.97.<sup>123</sup> In total, therefore, video games development generated an estimated 17,350 FTEs of direct employment across the whole sector in 2019.

Based on statistics published by the BFI and HM Revenue & Customs (HMRC), an estimated £860.4 million was spent in the UK on the development of video games in 2019 supported by VGTR, representing 31% of the total estimated turnover (£2.77 billion) of the UK video games development sub-sector that year.<sup>124</sup>

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<sup>121</sup>. The UK Games Map is available at: <https://gamesmap.uk>

<sup>122</sup>. Although this ratio was derived from survey data from outside the UK, the assumption is that the global nature of the video games development sector implies a congruence of business models and cost structures across peer jurisdictions such as the UK and Canada

<sup>123</sup>. Employment statistics published by BRES for 2016 indicate that part-time employees in *SIC 6201/1, Ready-made interactive leisure and entertainment software development*, accounted for 6.5% of total employment. When these part-time employees are given a 50% weight, the implication is that the sector employs 0.97 FTEs for each employee

<sup>124</sup>. As outlined in Section 6.1., the year-to-year growth in VGTR payments reported by HMRC for 2016/17 to 2018/19 (accrual basis) was applied to the total development spending supported by VGTR in 2016 (as reported by the BFI) to estimate the levels of VGTR-supported development spending in 2017, 2018 and 2019. This approach was required because of the lag in reporting of VGTR activity to the BFI on account of the typical length of VGTR projects

The direct economic contribution generated by the development of VGTR-supported titles was estimated by applying their pro-rata share of total development spend (ie 31% of £2.77 billion) to the estimates of total employment, employment compensation and GVA across all video games development companies. Based on this approach, the development of VGTR-supported video games generated 5,390 FTEs of direct employment, £294.8 million in employment compensation and £559.3 million in direct GVA in 2019 (Table 32).

**Table 32**  
**Direct economic impact of VGTR-supported video games development, 2016-2019**

	2016	2017	2018	2019
UK spend (£m)	624.5	700.8	791.0	860.4
Employment (FTEs)	6,910	5,550	5,670	5,390
CoE (£m)	368.1	280.7	310.8	294.8
GVA (£m)	412.2	567.6	585.3	559.3

Source: the BFI and Olsberg•SPI/Nordicity estimates based on data from HMRC, Ukie, Ortus, Dun & Bradstreet (D&B) and the Annual Business Survey (ABS)

Notes:

VGTR spend estimated for 2017-2019

For UK spend estimates, the entire development spending for a project is assigned to the calendar year in which the development project started, even if that development spending spans multiple calendar years. In contrast, the GVA estimates reflect estimates of the GVA generated by games developers within the specific calendar year.

### 6.3.2. Publishing

According to Ukie research, in 2019 UK consumers spent over £3.86 billion on the purchase of video games – through both digital and physical sales.<sup>125</sup> As with the development sub-sector, the UK Games Map was used in combination with research conducted by Olsberg•SPI, Nordicity, Ukie and Ortus to estimate the total employment, employment compensation and GVA in the publishing sub-sector:

- The UK Games Map provided a detailed list of companies engaged in video games publishing in the UK
- Data provided by Ortus was combined with research conducted by Olsberg•SPI, Nordicity and Ukie to assign actual or estimated levels of employment and GVA to each company for 2016
- For 2017 to 2019, Olsberg•SPI, Nordicity and Ukie conducted research to assign actual or estimated levels of employment and GVA to each company
- These company-based statistics were aggregated to arrive at an estimate of 3,773 employees in the publishing sub-sector in 2019. This figure was converted to 3,430 FTEs using an FTE conversion factor of 0.91

<sup>125</sup>. UK Video Games Market: 2019 Stats. Ukie, 2021. Accessible at: [https://ukiepedia.ukie.org.uk/index.php/UK\\_Video\\_Games\\_Market#2019\\_Stats](https://ukiepedia.ukie.org.uk/index.php/UK_Video_Games_Market#2019_Stats)

- The average full-time salary in SIC 5821, *Publishing of computer games* (£47,325) in 2016 was adjusted for annual consumer price index (CPI) inflation to arrive at an average full-time salary of £50,517 in 2019. This 2019 average full-time salary was adjusted to account for social security costs to arrive at an average FTE cost of £57,134.<sup>126</sup> The total number of direct FTEs (3,430) was multiplied by the average FTE cost (£57,134) to estimate direct employment compensation of £196.0 million in 2019
- These company-based statistics were aggregated to arrive at an estimate of £706.6 million in total GVA in 2019

A title-by-title review of video games sales in the UK conducted by Ukie concluded that UK-made video games had an overall market share of 14.1% across the digital and physical sales parts of the value chain in 2019. This estimated revenue market share (14.1%) was used to apportion total consumer sales between UK-made and non-UK titles, as well as the economic contribution.

In 2019, UK-made video games accounted for £548 million in consumer sales in the UK. Within the publishing sub-sector, UK-made video games accounted for 410 FTEs of direct employment, £23.4 million in direct employment compensation and £84.8 million in direct GVA.

The share of total UK development spend associated with VGTR-supported projects in 2019 (31%) was used as a proxy to apportion the value of sales of UK-made titles between VGTR and non-VGTR video games. This ratio was applied to the 14.2% apportionment of video games sales in the UK during 2019, to estimate the contribution of VGTR-supported titles within the publishing sector.

**Table 33**  
**Direct economic impact of VGTR-supported games in the publishing sub-sector in the UK, 2016-2019**

	2016	2017	2018	2019
Employment (FTEs)	200	120	220	130
CoE (£m)	10.7	6.6	12.4	7.4
GVA (£m)	45.5	30.7	53.6	26.3

Source: Ukie, GfK, Kantar World Panel, Superdata, and Olsberg•SPI/Nordicity estimates based on data from HMRC, Ukie, Ortus, D&B, and ABS

<sup>126</sup>. The average full-time salary in SIC 5821 was obtained from the Annual Survey of Employment and Hours (ASHE). The social security adjustment factor was obtained from employment cost statistics for SIC 5821 published in the ABS

### 6.3.3. Digital retail

According to statistics published by Ukie, UK consumers spent £3.19 billion on video games purchased through digital channels in 2019.<sup>127</sup> Ukie research shows that, of this total, £1.98 billion was spent on online downloads and subscriptions (PC and console), and £1.21 billion was spent on download-to-own apps and in-app purchases for mobile phones and tablets (mobile).<sup>128</sup>

According to research conducted by Ukie, UK-made games accounted for a 14.7% share of the UK digital market in 2019, accounting for an estimated £468.9 million in UK sales in 2019.<sup>129</sup>

**Table 34**  
**UK consumer spending on digital sales of video games, 2016-2019**

	2016	2017	2018	2019
UK-made games	403.1	333.8	388.0	468.9
Other games (£m)	1,811.9	2,336.3	2,792.0	2,721.1
Total (£m)	2,215.0	2,670.0	3,180.0	3,190.0
UK-made games market share (est.)	18.2%	12.5%	12.2%	14.7%

Source: Ukie and Superdata

To estimate the domestic impact of digital sales, employment data for certain small digital platform companies based in the UK was obtained along with data on the UK’s share of global workforce at the leading online global games platforms for which public financial information is readily available (for example, Apple Inc., Alphabet Inc. [Google] and Amazon.com Inc.).<sup>130</sup>

The results of this approach indicated that the digital sales of UK-made video games generated 40 FTEs of direct employment, £1.8 million in direct employment compensation and £3.7 million in direct GVA in 2019.<sup>131</sup>

Applying the 31% development spend ratio (see above) to these figures, it was found that VGTR-supported video games accounted for an estimated 10 FTEs of direct employment, £0.6 million in direct employment compensation and £1.1 million in direct GVA in 2019.

<sup>127.</sup> 2019 UK Consumer Games Market Valuation, Ukie, Accessible at: [https://ukiepedia.ukie.org.uk/index.php/2019\\_UK\\_Consumer\\_Games\\_Market\\_Valuation](https://ukiepedia.ukie.org.uk/index.php/2019_UK_Consumer_Games_Market_Valuation)

<sup>128.</sup> 2019 UK Consumer Games Market Valuation, Ukie, Accessible at: [https://ukiepedia.ukie.org.uk/index.php/2019\\_UK\\_Consumer\\_Games\\_Market\\_Valuation](https://ukiepedia.ukie.org.uk/index.php/2019_UK_Consumer_Games_Market_Valuation)

<sup>129.</sup> Direct digital sales data were not available for PC games, so Ukie used Valve’s annual [published list](#) of the top 100 best-selling games on Steam for a given year. Games were separated into categories of Platinum, Gold, Silver and Bronze. Points were awarded to UK games appearing within each tier and an estimate of the UK’s market share was calculated in this way. Points assigned to each tier were calculated by using the relative proportions of peak simultaneous players that Valve uses to separate the tiers in their Top 100 Most Played Games [annual list](#). Note that all of Steam’s data were for worldwide user purchases and activity

<sup>130.</sup> Data from public financial reports published by the multinational companies and by Companies House indicated that – after adjusting for their respective shares of global games platform market – their UK operations accounted for 4.1% of their global workforce

<sup>131.</sup> See Appendix 1 for estimates of the economic impact of all digital sales in the UK – including video games developed inside and outside the UK

**Table 35**  
**Direct economic impact of digital sales of VGTR-supported video games in the UK, 2016-2019**

	2016	2017	2018	2019
Sales (£m)	201.2	128.4	146.5	145.5
Employment (FTEs)	10	10	10	10
CoE (£m)	0.8	0.5	0.6	0.6
GVA (£m)	1.8	1.1	1.2	1.1

Source: Olsberg•SPI/Nordicity estimates based on data from HMRC, Ukie, Superdata, Kantar World Panel, ABS and ASHE

### 6.3.4. Physical retail

In addition to this digital spend, data from Ukie, Kantar World Panel and GfK show that £658.0 million was spent on physical sales of video games in the UK during 2019. These data showed that, of this total, £603.0 million was spent on new boxed software, and £55.0 million on pre-owned software.

The 14.9% physical market share ratio was applied to these 2019 sales figures, implying a UK market share of £79.0 million in the physical sales space, of which £72.4 million was on original, and £6.6 million on pre-owned content (Table 36).

**Table 36**  
**UK consumer spending on physical sales across all video games and UK-made video games, 2016-2019**

	2016	2017	2018	2019
UK-made games	132.0	106.9	162.6	79.0
Other games	754.0	784.1	675.4	579.0
<b>Total</b>	<b>886.0</b>	<b>903.6</b>	<b>838.0</b>	<b>658.0</b>
UK-made games' market share	14.9%	12.0%	19.4%	12.0%

Source: Ukie, Kantar World Panel and GfK

To quantify the employment, employment compensation and GVA impacts resulting from digital sales of UK-made video games, sales figures were analysed using the GVA-turnover ratios in *SIC 47.63, Retail sale of music and video recordings in specialised stores* for physical sales.

The results of this analysis indicated that the physical sales of UK-made video games generated 360 FTEs of direct employment, £8.6 million in direct employment compensation and £19.3 million in direct GVA in 2019.

Applying the 31% development spend ratio to these figures, it was found that VGTR-supported video games accounted for an estimated 110 FTEs of direct employment, £2.7 million in direct employment compensation and £6.0 million in direct GVA in 2019.

**Table 37**  
**Direct economic impact of physical sales of VGTR-supported video games in the UK, 2016-2019**

	2016	2017	2018	2019
Sales (£m)	65.9	41.1	61.4	24.5
Employment (FTEs)	290	210	290	110
CoE (£m)	6.5	4.6	6.7	2.7
GVA (£m)	9.8	8.1	15.0	6.0

Source: Olsberg•SPI/Nordicity estimates based on data from HMRC, Ukie, Superdata, GfK, Kantar World Panel, ABS and ASHE

### 6.3.5. Summary of direct economic impact

Drawing these sub-sectors together, the direct value chain impact of VGTR-supported video games in 2019 was 5,640 FTEs of direct employment, £305.4 million in direct employment compensation and £592.7 million in direct GVA (Table 38).

**Table 38**  
**Summary of direct economic impact of VGTR-supported video games across the value chain, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Development	6,910	5,550	5,670	5,390
	Publishing	200	120	220	130
	Digital sales	10	10	10	10
	Physical sales	290	210	290	110
	<b>Total</b>	<b>7,410</b>	<b>5,890</b>	<b>6,190</b>	<b>5,640</b>
CoE (£m)	Development	368.1	280.7	310.8	294.8
	Publishing	10.7	6.6	12.4	7.4
	Digital sales	0.8	0.5	0.6	0.6
	Physical sales	6.5	4.6	6.7	2.7
	<b>Total</b>	<b>386.0</b>	<b>292.4</b>	<b>330.4</b>	<b>305.4</b>
GVA (£m)	Development	412.2	567.6	585.3	559.3
	Publishing	45.5	30.7	53.6	26.3
	Digital sales	1.8	1.1	1.2	1.1
	Physical sales	9.8	8.1	15.0	6.0
	<b>Total</b>	<b>469.3</b>	<b>607.5</b>	<b>655.2</b>	<b>592.7</b>

Source: Olsberg•SPI/Nordicity estimates based on data from HMRC, Ukie, Superdata, GfK, Kantar World Panel, ABS, ASHE and ESAC

Note:

Figures may not sum to totals due to rounding

## 6.4. Total economic impact

As with the other screen sectors analysed for this study, the video games sector value chain generates additional economic impact through its purchases of supplies and services (indirect impact), and the economic activity of its direct and indirect employees (induced impact).

To estimate the value of these impacts, a bespoke model was generated using ONS sales and use data. This model tracked the spending from the video games sector through the areas of the economy from which it makes purchases, allowing for the impact of this spending to be estimated. This approach also provided an estimate of the labour income arising from the purchases of supplies and services, which was used to identify indirect impacts through a modelling of consumer spending.<sup>132</sup>

The total economic impact is equal to the sum of the direct, indirect and induced impacts.

The analysis undertaken indicated that the total economic impact of VGTR-supported video games (including indirect and induced impacts) amounted to 15,030 FTEs, £572.8 million in employment compensation and £1.06 billion in GVA in 2019 (Table 39).

**Table 39**  
**Total economic impact of VGTR-supported video games throughout the value chain, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	7,410	5,890	6,190	5,640
	Indirect	4,360	2,870	4,500	5,650
	Induced	2,910	2,690	3,440	3,740
	<b>Total</b>	<b>14,680</b>	<b>11,450</b>	<b>14,130</b>	<b>15,030</b>
CoE (£m)	Direct	386.0	292.4	330.4	305.4
	Indirect	129.0	86.2	134.9	166.4
	Induced	78.5	72.9	93.0	101.0
	<b>Total</b>	<b>593.5</b>	<b>451.5</b>	<b>558.3</b>	<b>572.8</b>
GVA (£m)	Direct	469.3	607.5	655.2	592.7
	Indirect	222.0	147.4	230.7	287.6
	Induced	143.2	132.6	169.5	183.9
	<b>Total</b>	<b>834.5</b>	<b>887.5</b>	<b>1,055.4</b>	<b>1,064.2</b>

Source: Olsberg•SPI/Nordicity estimates based on data from HMRC, Ukie, Superdata, GfK, Kantar World Panel, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

<sup>132</sup>. Further details of this approach can be found in Appendix 3

# 6.5. Spillover impacts

## 6.5.1. Merchandising and events

The major source of spillovers from video games, as in some of the other sectors, is to the retail sector via merchandise. However, video games-related events also generate spillover impacts.

Ukie publishes an annual valuation of the UK video games market which contains useful data which helps to calculate this impact. In 2019, games-related merchandise sales and events generated £146.4 million in revenue in the UK. This total included toys and merchandising sales (£94.2 million), books and magazine sales (£13.9 million), revenue from movies and soundtracks (£29.5 million) and events and venues revenue (£8.8 million).

The estimated market share of VGTR titles was then applied to the total annual value of merchandise and events revenue in the UK to arrive at an estimate of revenue attributable to VGTR. This ranged from £8.7 million in 2016 to £6.5 million in 2019.

**Table 40**  
**Video games-related merchandise and events revenue in the UK attributed to VGTR (£m, unless indicated otherwise), 2016-2019**

	2016	2017	2018	2019
Toys and merchandising	66.8	72.9	59.3	94.2
Books and magazines	18.4	18.0	17.8	13.9
Movies and soundtracks	7.8	17.6	23.6	29.5
Events and venues	7.5	8.4	8.9	8.8
<b>Total sales</b>	<b>100.5</b>	<b>117.0</b>	<b>109.6</b>	<b>146.4</b>
<b>VGTR market share (est.)</b>	<b>8.6%</b>	<b>4.8%</b>	<b>5.2%</b>	<b>4.4%</b>
<b>VGTR share of sales</b>	<b>8.7</b>	<b>5.6</b>	<b>5.7</b>	<b>6.5</b>

Source: Ukie, Superdata, NPD, OCC, BPI, the BFI, Nielsen, ABC GfK and Kantar World Panel

The average retail margin for the UK of 30% was then applied to this total share to give an estimated retail margin of £1.9 million in 2019. ONS-derived ratios for the retail sector were applied to this to derive other economic impacts, allowing an estimation of 40 FTEs and £1.2 million in GVA.



**Table 41****Total economic impact of video games-related merchandise sales in the UK attributed to VGTR (£m unless indicated otherwise), 2016-2019**

	2016	2017	2018	2019
Retail sales	8.7	5.6	5.7	6.5
Retail margin	2.6	1.7	1.7	1.9
Employment (FTEs)	60	40	40	40
GVA	1.6	1.1	1.1	1.2
Tax revenue	0.3	0.2	0.2	0.2

Source: Olsberg•SPI/Nordicity estimates based on data from HMRC, Ukie, Superdata, NPD, OCC, BPI, the BFI, Nielsen, ABC GfK, Kantar World Panel, ABS and ASHE

### 6.5.2. Esports

Esports is a rapidly-growing element of the video games landscape and involves video games being played competitively at live events, which can have in-person spectators or be broadcast or streamed. Esports events can attract significant amounts of spectators.

The economic benefits of esports are counted as a spillover from the UK video games sector for the purposes of this study on the basis that VGTR contributes to a small extent to the overall strength of the esports ecosystem in the UK. In fact, the modelling used for this analysis found that VGTR titles only accounted for 4.4% of GVA generated by the UK's esports industry in 2019. While esports growth is not directly driven by VGTR, some titles with esports elements have accessed VGTR, such as *F1® 2019* and *Assetto Corsa Competizione*.<sup>133</sup>

In 2020, Ukie published the first ever study of the economic value of the esports sector in the UK.<sup>134</sup> That study found that esports generated economic benefits for the UK through four key segments:

1. Esports services
2. Streaming platforms
3. Visitor tourism
4. Esports-related employment at games publishing companies

In total, esports generated an estimated 1,210 FTEs and £111.5 million in GVA for the UK economy in 2019. The esports sector is also estimated to have grown at an average annual rate of 8.5% between 2016 and 2019.

As with merchandise and events spillovers, the estimated VGTR market share was applied to the total esports economic impact in each year to arrive at an estimation of the esports impact that could be attributed to VGTR. Based on this approach, 60 FTEs and £4.9 million in GVA could be attributed to VGTR in 2019.

<sup>133</sup>. *Assetto Corsa Competizione to Host 2021 British GT Esports Championship*. GTPlanet, 3 March 2021. Accessible at: <https://www.gtplanet.net/2021-british-gt-esports-20210303/>

<sup>134</sup>. *The value of esports in the UK*. A study for Ukie by Olsberg•SPI with Nordicity, October 2020. Accessible at: <https://ukie.org.uk/esportsreport>

**Table 42**  
**Total economic impact of the esports sector in the UK, 2016-2019<sup>1</sup>**

		2016	2017	2018	2019
Total	Employment (FTEs)	950	1,030	1,120	1,210
	GVA (£m)	87.3	94.7	102.8	111.5
	Tax revenue (£m)	20.1	21.8	23.6	25.6
VGTR attributable share	Employment (FTEs)	90	50	60	60
	GVA (£m)	7.5	4.5	5.3	4.9
	Tax revenue (£m)	1.7	1.0	1.2	1.1

Source: Olsberg•SPI/Nordicity estimates based on data from HMRC, Ukie, Newzoo, industry survey (2019/2020), ONS and interviews with games publishers

Note:

1. Figures for 2016 to 2018 estimated by applying annual average growth rate of 8.5%

### 6.5.3. Summary

In total, it is estimated that video games sector spillovers attributable to VGTR generated 100 FTEs, £6.1 million in GVA and £1.3 million in tax revenue for the UK economy in 2019.

**Table 43**  
**Summary of economic impact of video games sector spillovers in the UK, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Merchandise and events	60	40	40	40
	Esports	90	50	60	60
	<b>Total</b>	<b>150</b>	<b>90</b>	<b>100</b>	<b>100</b>
GVA (£m)	Merchandise and events	1.6	1.1	1.1	1.2
	Esports	7.5	4.5	5.3	4.9
	<b>Total</b>	<b>9.1</b>	<b>5.6</b>	<b>6.4</b>	<b>6.1</b>
Tax revenue (£m)	Merchandise and events	0.3	0.2	0.2	0.2
	Esports	1.7	1.0	1.2	1.1
	<b>Total</b>	<b>2.0</b>	<b>1.2</b>	<b>1.4</b>	<b>1.3</b>

Source: Olsberg•SPI/Nordicity estimates based on data from HMRC, Ukie, Superdata, NPD, OCC, BPI, the BFI, Nielsen, ABC GfK, Kantar World Panel, Newzoo, industry survey (2019/2020), ONS and interviews with games publishers

Note:

Figures may not sum to totals due to rounding

## 6.6. Overall economic contribution

Including these spillover impacts, the total impact of the entire video games sector in the UK (including video games developed, published or sold in the UK) amounted to 15,130 FTEs, £1.07 billion in GVA and £247.7 million in tax revenue in 2019.<sup>135</sup>

**Table 44**  
**Overall economic contribution of VGTR, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Total value chain impact	14,680	11,450	14,130	15,030
	Spillover impacts	150	90	100	100
	<b>Overall economic contribution</b>	<b>14,830</b>	<b>11,540</b>	<b>14,230</b>	<b>15,130</b>
GVA (£m)	Total value chain impact	834.5	887.5	1,055.4	1,064.2
	Spillover impacts	9.1	5.6	6.4	6.1
	<b>Overall economic contribution</b>	<b>843.6</b>	<b>893.1</b>	<b>1,061.8</b>	<b>1,070.4</b>
Tax revenue (£m)	Total value chain impact	236.2	196.3	238.9	246.3
	Spillover impacts	2.0	1.2	1.4	1.3
	<b>Overall economic contribution</b>	<b>238.3</b>	<b>197.6</b>	<b>240.3</b>	<b>247.7</b>

Source: Olsberg•SPI/Nordicity estimates based on data from HMRC, Ukie, D&B, Ortus Economic Research, Superdata, NPD, OCC, BPI, the BFI, Nielsen, ABC GfK, Kantar World Panel, Newzoo, industry survey (2019/2020), ONS and interviews with games publishers

Note:

Figures may not sum to totals due to rounding

## 6.7. Impact of Video Games Tax Relief

Estimates of the tax revenues likely to have been generated by VGTR-supported video games development showed that, in 2019, these video games were responsible for £247.7 million in tax revenue, including £143.9 million in taxation related to direct impacts (including the VAT on physical sales), and £103.8 million from indirect, induced and spillover impacts.<sup>136</sup>

<sup>135</sup>. Statistics on the overall economic contribution of the entire video games sector in the UK can be found in Appendix 1

<sup>136</sup>. See Appendix 3 for details of tax revenue calculation

**Table 45**  
**Tax revenue generated by VGTR-supported video games, 2016-2019**

	2016	2017	2018	2019
VAT on sales	11.2	7.0	10.4	4.2
Direct	154.7	132.8	149.7	139.8
Indirect	43.0	29.2	44.9	62.9
Induced	27.3	27.3	33.9	39.4
Spillover	2.0	1.2	1.4	1.3
<b>Total</b>	<b>238.3</b>	<b>197.6</b>	<b>240.3</b>	<b>247.7</b>

Source: Olsberg•SPI/Nordicity estimates based on data from HMRC, Ukie, Superdata, GfK, Kantar World Panel, ABS, ASHE and ESAC

Note:

Figures may not sum to totals due to rounding

According to the results of a survey of 62 video games development companies that accessed VGTR between 2017 and 2019 undertaken for this project, video games development expenditures would have been 28% lower in the absence of VGTR. This means that 28% of video games development expenditures under VGTR are additional, and would not have occurred had the tax relief not been available.

This additionality rate was applied to the development sub-sector, while other sub-sectors were discounted prior to the application of the rate, to reflect lower rates of net additionality.<sup>137</sup>

Based on the additionality rates applied to the video games sub-sectors, it is estimated that the value chain for VGTR-supported video games generated an economic return on investment (RoI) of £1.72 in 2019. This means that each pound of VGTR invested by HM Government in the video games sector generated £1.72 of additional GVA for the UK economy in 2019.

**Table 46**  
**VGTR return on investment, 2016-2019**

	2016	2017	2018	2019
Total development expenditures (£m)	624.5	700.8	791.0	860.4
Tax relief outlays (£m) <sup>1</sup>	124.9	140.2	158.2	172.1
Overall economic contribution (£m)	843.6	893.1	1,061.8	1,070.4
Additional GVA (£m)	228.0	244.9	290.2	295.7
<b>GVA RoI (£)</b>	<b>1.83</b>	<b>1.75</b>	<b>1.83</b>	<b>1.72</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, ABS, IDBR, BRES, public financial reports, ASHE, ESAC, ONS

Note:

1. Estimated at 20% of total expenditures

<sup>137</sup>. See Appendix 3 for details

# THE ANIMATION PROGRAMME SECTOR



## 7.1. Context and key findings

The UK has a long tradition of producing animation programmes, with titles such as *The Gruffalo* and *Bitz & Bob* achieving success.

In addition to their popularity with audiences in the UK and around the world, such projects can also generate significant downstream value, particularly through merchandise sales and tourism.

Introduced in 2013, Animation Tax Relief (ATR) supports animation programmes intended for broadcast. Animation film productions intended for theatrical release are eligible for Film Tax Relief (FTR). According to the BFI, 21 animated film projects received final FTR certification between 2017 and 2019, with a further 17 animated projects having received interim certification.<sup>138</sup>

Considering only the impact of ATR – ie excluding other types of non-eligible animation such as advertising – production expenditure was £65.3 million in 2019.<sup>139</sup> Throughout the whole of the value chain, ATR-supported content generated £130.6 million in direct gross value added (GVA) and 1,460 direct full-time equivalent (FTE) jobs in 2019.

Including indirect and induced impacts, ATR-supported content generated £254.6 million in GVA and 3,730 FTEs in 2019.

Spillover impacts deliver significant value to the animation programme sector. With the addition of these effects, the overall economic contribution of ATR-supported content reached £285.2 million in GVA in 2019, supporting 4,360 FTEs.<sup>140</sup>

ATR generated strong returns for HM Treasury over 2017-2019. In 2019, each pound of ATR granted yielded an additional £4.53 in GVA for the UK economy.

### Note

2016 data have been revised from the previous edition of *Screen Business* to account for updates in projects tracked by the BFI since publication. For example, when *Screen Business* was published in 2018, total animation programme expenditure in 2016 was reported by the BFI to be £97.1 million. This total has since been revised to £114.7 million. Analysis in this chapter is based on projects certified to the end of 2020 only, so data may change in time as new applications for the years in question are submitted.

<sup>138</sup>. Data as of September 2021 and relate to cultural test certification. Most projects are animation feature films but data may include some animation short films

<sup>139</sup>. It should be noted that the animation sector's overall size and value are considerably more significant than the element captured in relation to ATR. In 2019, the BFI commissioned the first of two broader animation 'mapping' studies to analyse the sector's value, including animation for corporate and digital marketing and advertising. Most animation companies operate mixed business models – these will be analysed in the second of the two mapping studies, due to be published in 2022

<sup>140</sup>. The animation sector makes further contributions to the UK's economy outside of the tax relief. The BFI is undertaking research in collaboration with Animation UK to provide a more accurate understanding of economic activity within the animation sector and its economic value

## 7.2. Value chain overview

As with the other screen sectors in this study, the economic impact analysis takes a value chain approach to quantify the value generated by ATR-supported production.

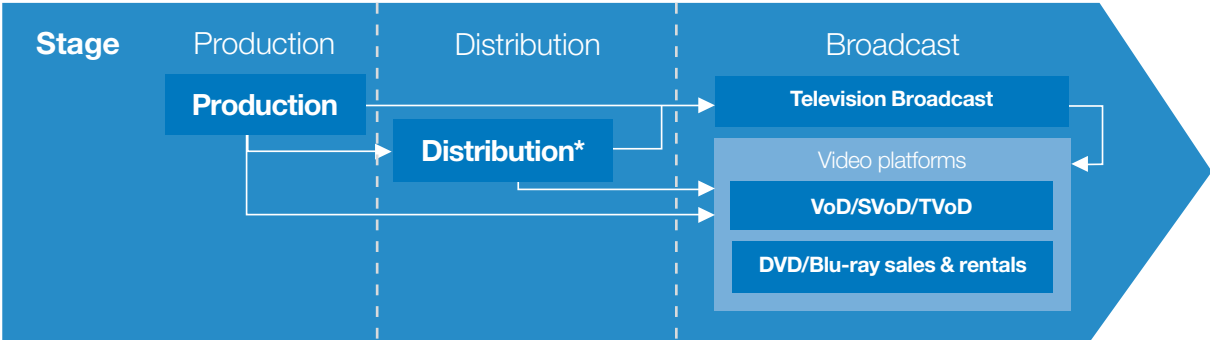
It should be noted that animation production is significantly different to live action television in a number of respects. Lead times are longer in the animation sector, with protracted development and production cycles. Financing and business models also differ, with animation relying more on co-production and international investment.

The animation programme value chain begins with the production stage at which producers conceive and develop content. A team of animators and graphic artists then renders this content into a final programme or series, which is very labour intensive.

Animation programmes often involve the production of a large number of shorter episodes in contrast with either more limited series of longer episodes or single productions in the high-end television (HETV) sector.

As with HETV, the production company often engages with a broadcaster or digital platform directly, without a distribution intermediary.<sup>141</sup> However, distributors (or distribution functions within a production company) play a role in managing international sales of programmes, or sales to other video platforms. They may also assist with the management of intellectual property (IP) for exploitation in other parts of the market, such as merchandising.

**Figure 22**  
**Animation programme value chain**



\* A distributor may or may not be involved, depending on the structure of the production

Other video platforms play a significant role within the animation programme sector. Physical video continues to provide revenue, while digital video platforms also play an important role. Both areas can function as a way of catching up on content already broadcast on television, or as the first release window.

<sup>141</sup>. As outlined in the value chain model in Figure 22, the definition of broadcast includes both television broadcasters and physical and digital video platforms

As noted in the previous edition of *Screen Business*, animation programmes also offer a longer recoupment cycle than the other sectors in this study. Programmes are frequently dubbed into other languages and audiences can be renewed as new generations discover and consume previously-made content. This is particularly relevant to the children’s component of the market. Combined with the value of licensing and merchandise deals, it is reasonable to anticipate that downstream revenues will continue to be generated from ATR-supported production for years to come.

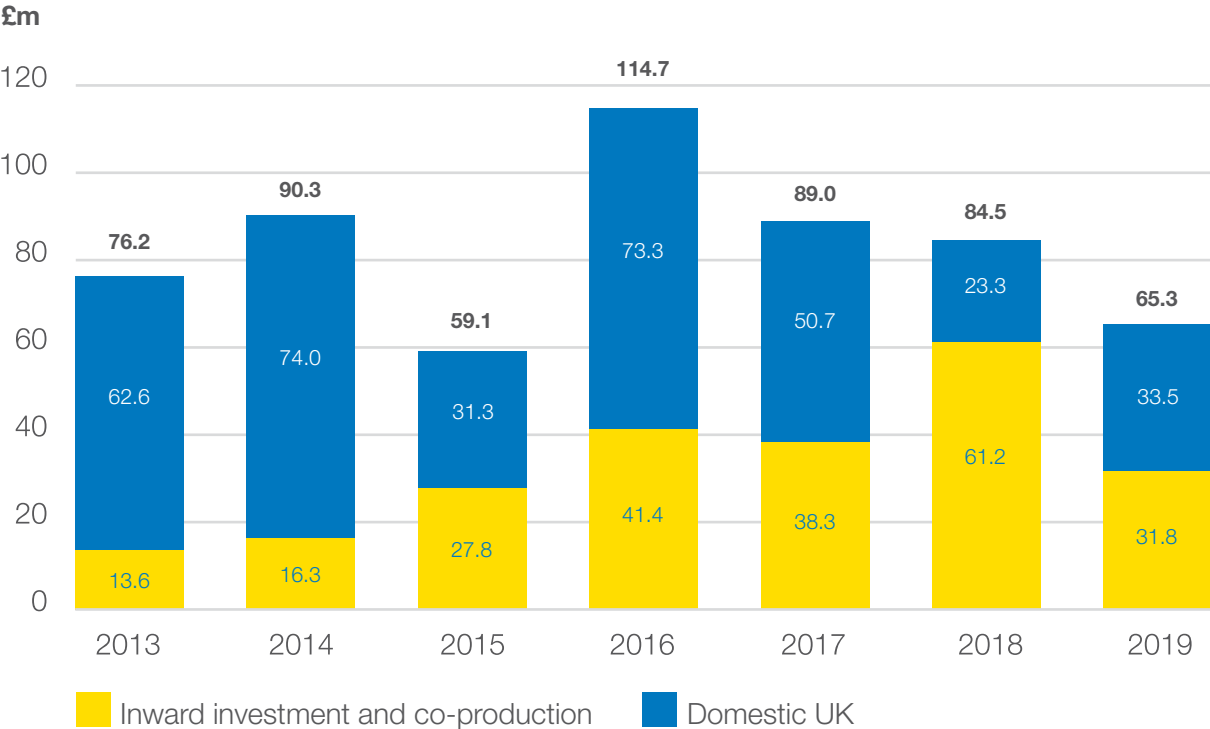
## 7.3. Direct impact

### 7.3.1. Production

Statistics compiled by the BFI show that while £114.7 million was spent on the production of ATR-qualifying animation programmes in 2016, the total in 2019 was £65.3 million (Figure 23). These 2019 expenditures included £31.8 million in inward investment and co-productions, and £33.5 million in UK domestic production.<sup>142</sup>

An element of this decline is likely to relate to a lag between animation production and certification, and there may be upward revisions in future – although the impact of these is unknown.<sup>143, 144</sup>

**Figure 23**  
**UK spend on ATR programme production, 2013-2019 (£m)**



Source: The BFI

<sup>142</sup> *Film, high-end television and animation programmes production in the UK: full-year 2020*. Ibid

<sup>143</sup> As an example of expenditure revision, the UK spend data on ATR programme production in the 2018 edition of *Screen Business* was £97.1 million in 2016, £58.5 in 2015 and £92.8 in 2014

<sup>144</sup> It should be noted that this study has not assessed any wider sectoral trends or challenges that may have contributed to the decline in spend since 2016



To estimate the direct economic impact of this production expenditure, the total value of UK spend was converted to FTEs, compensation of employment (CoE) and GVA by applying economic ratios derived from data collected through a survey of UK animation studios and from the Job Creation Model.<sup>145, 146</sup>

The survey indicated that each £1 million of UK spend generated £575,000 in employment compensation in 2016. Data from this research also indicated that the median salary within the sector was £37,160 in 2016, which translated into a median FTE cost of £42,280.<sup>147</sup> This median FTE cost implied that each million pounds of production spending generated 13.5 direct FTEs.

Research for the Job Creation Model indicated that each million pounds of spending on animation programme production generates £0.68 million in direct GVA.<sup>148</sup>

Based on these ratios, it was calculated that animation programme production generated 840 direct FTEs, £37.5 million in direct employment compensation, and £44.5 million in direct GVA in 2019 (Table 47). This represents a decline from 2016 across all metrics. As previously noted, this partly relates to a lag between animation production and certification, although the impact of likely upward revision of production spend is unknown.

**Table 47**  
**Direct economic impact of ATR programme production, 2016-2019**

	2016	2017	2018	2019
UK spend (£m)	114.7	89.0	84.5	65.3
Employment (FTEs)	1,560	1,190	1,080	840
CoE (£m)	75.6	51.2	48.6	37.5
GVA (£m)	78.2	60.7	57.6	44.5

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Ofcom, ABS and ASHE

Note:

See Appendix 3 for description of methodology

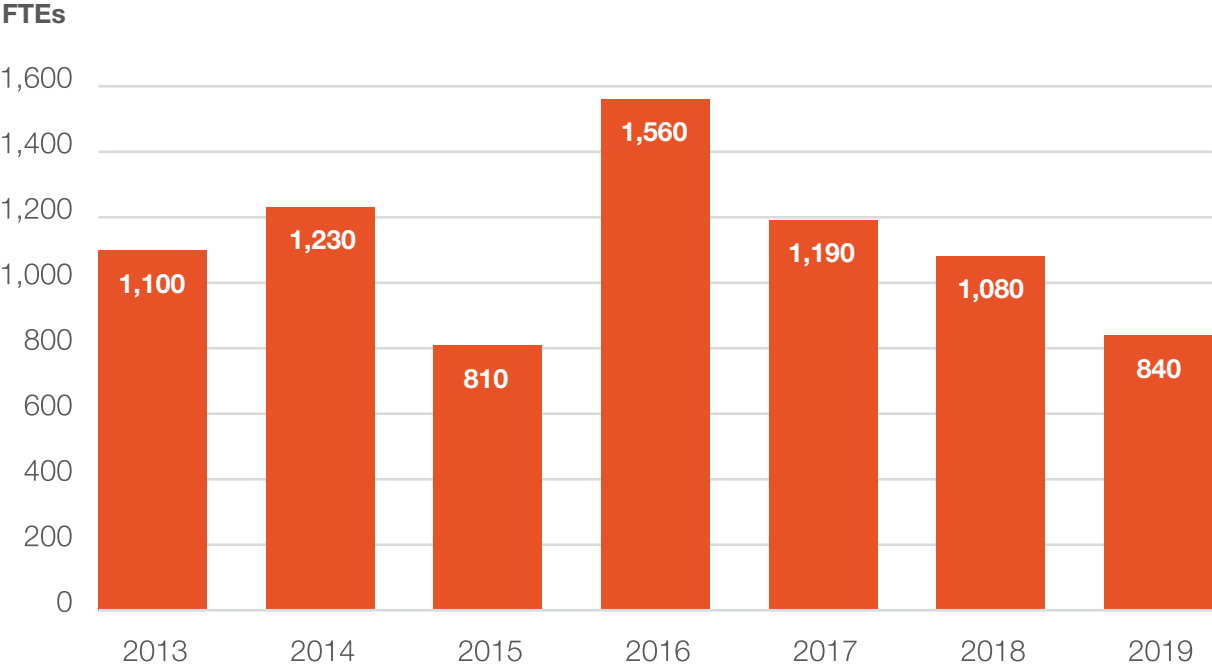
<sup>145.</sup> See Appendix 3 for further information

<sup>146.</sup> While the Job Creation Model did not cover animation programme production, some of the research and analysis of the VFX sector (which operates similar operating models) was applied to the animation programme production sector; further information on the Job Creation Model can be found in Section 4.3.1.

<sup>147.</sup> The median salary was multiplied by 1.138 to account for employers' NI costs

<sup>148.</sup> The estimate of operating surplus for VFX companies derived for the Job Creation Model was combined with the employment compensation ratio derived from the survey of animation studios to estimate the GVA ratio

**Figure 24**  
**Direct employment generated by ATR programme production, 2013-2019 (FTEs)**



Source: Nordicity/Olsberg•SPI estimates based on data from the BFI, ABS and ASHE

**7.3.2. Television broadcast**

When animation programmes are broadcast on television, value is generated for the UK economy as economic activity is added over and above the labour, goods and services related to the content. A proportion of the broader economic activity undertaken by the broadcaster is therefore attributable to the acquisition and transmission of ATR-supported programmes.

To ascertain this value, the BFI undertook an analysis of audience share figures for animation programmes on UK television. This allowed the generation of an economic share for each ATR-related project, and attributed revenues based on audience share.

This analysis indicates that ATR-qualifying animation programmes yielded an economic share of 0.56% of total television broadcast activity in 2016, increasing to 1.80% in 2019. This economic share means that ATR programmes generated an attributable revenue of £76.6 million on UK broadcast television in 2016, increasing to £238.1 million in 2019 (Table 49).

**Table 48**  
**Calculation of ATR viewing share**

	2017	2018	2019
ATR viewing minutes (millions)	33.1	31.8	27.3
Total minutes of viewing to all channels (in BARB sample) (millions)	1,824.1	1,678.9	1,547.4
<b>ATR viewing share</b>	<b>1.8%</b>	<b>1.9%</b>	<b>1.8%</b>

Source: The BFI and BARB

This attributable revenue generated 430 direct FTEs, £23.8 million in direct employment compensation and £42.9 million in direct GVA within the television broadcast sub-sector in 2019.

**Table 49**  
**Direct economic impact of ATR programmes on UK television, 2016-2019**

	2016	2017	2018	2019
Economic share	0.56%	1.80%	1.90%	1.80%
Attributable revenue (£m)	76.6	241.4	257.0	238.1
Employment (FTEs)	170	510	520	430
CoE (£m)	8.4	24.1	25.7	23.8
GVA (£m)	27.6	48.3	38.6	42.9

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, BARB, Ofcom, ABS and ASHE

Note:

See Appendix 3 for methodology

### 7.3.3. Distribution

As with the other screen sectors in this study, the distribution of animation programmes can also generate economic activity within the UK from the licensing of programmes to broadcasters and video platforms, as well as the licensing of IP for use in merchandising. This reflects the value-added activity undertaken by the distributor to sell the content and administer the proceeds.

To estimate this, the economic share of ATR-supported animation programmes within total television broadcast activity in 2019 – ie 1.80% – was used as the base rate for ATR-supported programmes' share of the total UK content market. This was adjusted to account for the fact that not all genres of television programming, such as news, are subject to distribution, raising the economic share of ATR-supported programmes to 2.97% in 2019.<sup>149</sup> This adjusted economic share was applied on a pro-rata basis to the totals for employment, employment compensation and GVA in the Office for National Statistics (ONS) dataset for SIC 59.13/3, *Television programme distribution activities*.

This analysis indicated that the distribution of animation programmes which accessed ATR generated an estimated £67.6 million of revenue within the distribution sub-sector in 2019 (Table 50). Such attributable revenues were responsible for 50 direct FTEs, £4.7 million in direct employment compensation, and £23.4 million in direct GVA.

<sup>149</sup>. Details of this approach can be found in Appendix 3

**Table 50**  
**Direct economic impact of distribution of ATR programmes, 2016-2019**

	2016	2017	2018	2019
Economic share of television broadcast market	0.56%	1.80%	1.80%	1.80%
Economic share of television distribution market	0.95%	2.95%	3.13%	2.97%
Attributable revenue (£m)	8.5	45.6	50.9	67.6
Employment (FTEs)	10	20	60	50
CoE (£m)	0.5	3.5	4.9	4.7
GVA (£m)	2.6	15.7	20.8	23.4

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, BARB, Ofcom, ABS and ASHE

Note:

See Appendix 3 for methodology

### 7.3.4. Video platforms

In keeping with the approach undertaken for the other television-based screen sectors in this study, the portion of economic activity on video platforms was also estimated with reference to an adjusted economic share for animation programmes. This reflects the marginal value added associated with the labour, goods and services required to place programmes on such platforms.

As with the distribution sub-sector, this analysis started with the use of the economic share in television broadcast as a proxy. In this case, the economic share was adjusted from 1.8% to 6.0% to reflect the fact that fiction genres predominated audience viewing on video platforms during the 2017-2019 period, in relation to broadcast television.<sup>150</sup>

For physical sales, this adjusted economic share was applied to ONS data for *SIC 47, Retail trade, except of motor vehicles and motorcycles*. Data on major digital video platforms were used to estimate the economic contribution of ATR-supported programmes to this element of the sub-sector.

Based on this approach, ATR programmes generated 140 direct FTEs, £6.7 million in direct employment compensation and £19.8 million in direct GVA in 2019 (Table 51).

<sup>150</sup>. This approach is detailed in Appendix 3

**Table 51**  
**Direct economic impact of ATR programmes on video platforms, 2016-2019**  
**(£m, unless indicated otherwise)**

		2016	2017	2018	2019
Revenue value of ATR	Physical	5.6	18.4	19.8	19.7
	Digital	22.4	93.5	115.5	128.9
	<b>Total</b>	<b>28.0</b>	<b>111.9</b>	<b>135.3</b>	<b>148.6</b>
Employment (FTEs)	Physical	30	100	100	100
	Digital	10	30	40	40
	<b>Total</b>	<b>40</b>	<b>130</b>	<b>140</b>	<b>140</b>
CoE	Physical	0.6	2.3	2.4	2.4
	Digital	0.7	3.1	3.8	4.3
	<b>Total</b>	<b>1.3</b>	<b>5.4</b>	<b>6.2</b>	<b>6.7</b>
GVA	Physical	0.9	3.9	4.3	4.2
	Digital	2.7	11.3	14.0	15.6
	<b>Total</b>	<b>3.6</b>	<b>15.2</b>	<b>18.3</b>	<b>19.8</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Omdia, ABS, Attentional, BARB, public financial reports and ASHE

Notes:

See Appendix 3 for methodology

Figures may not sum to totals due to rounding

### 7.3.5. Summary of direct economic impact

The estimates of economic activity across these components of the value chain were brought together to estimate the total value chain impact of the animation programme sector.

This shows that, in 2019, ATR-supported animation programmes generated 1,460 direct FTEs, £72.8 million in direct employment compensation and £130.6 million in direct GVA (Table 52).

**Table 52**  
**Summary of direct economic impact of ATR programmes across the value chain,**  
**2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Production	1,560	1,190	1,080	840
	Distribution	10	20	60	50
	TV broadcast	170	510	520	430
	Video platforms <sup>†</sup>	40	130	140	140
	<b>Total</b>	<b>1,780</b>	<b>1,850</b>	<b>1,800</b>	<b>1,460</b>
CoE (£m)	Production	75.6	51.2	48.6	37.5
	Distribution	0.5	3.5	4.9	4.7
	TV broadcast	8.4	24.1	25.7	23.8
	Video platforms <sup>†</sup>	1.3	5.4	6.2	6.7
	<b>Total</b>	<b>85.9</b>	<b>84.2</b>	<b>85.4</b>	<b>72.8</b>
GVA (£m)	Production	78.2	60.7	57.6	44.5
	Distribution	2.6	15.7	20.8	23.4
	TV broadcast	27.6	48.3	38.6	42.9
	Video platforms <sup>†</sup>	3.6	15.2	18.3	19.8
	<b>Total</b>	<b>112.1</b>	<b>140.0</b>	<b>135.2</b>	<b>130.6</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, BARB, Ofcom, ABS and ASHE

Notes:

See Appendix 3 for methodology

<sup>†</sup> Includes physical video sales and rentals and digital video platforms

Figures may not sum to totals due to rounding

## 7.4. Total economic impact

As with the other sectors in this study, indirect and induced impacts were estimated through the use of a bespoke model based on ONS input-output (I-O) tables.

This model enables an estimate of how the animation programme sector value chain generates additional economic impact through its purchases of goods and services (ie indirect impact), and the economic activity associated with the re-spending of earnings by direct- and indirect-impact employees (ie induced impact).

To estimate indirect effects, data from production budgets were used to identify the goods and services utilised by an ATR-supported production in the sectors which supply it; these were categorised per the industry categories in the ONS I-O tables. The impact of these purchases was modelled industry by industry to identify the incremental employment, employment compensation and GVA which would be generated, using the ONS tables to identify the connections between the various sectors of the UK economy.<sup>151</sup>

<sup>151</sup>. This approach is detailed in Appendix 3

This model indicates that animation programmes generated a total economic impact (including indirect and induced impacts) in 2019 of 3,730 FTEs, £137.6 million in employment compensation and £254.6 million in GVA (Table 53).

**Table 53**  
**Total economic impact generated by ATR programmes throughout all parts of the value chain, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	1,780	1,850	1,800	1,460
	Indirect	930	1,440	1,480	1,460
	Induced	580	820	820	810
	<b>Total</b>	<b>3,290</b>	<b>4,110</b>	<b>4,100</b>	<b>3,730</b>
CoE (£m)	Direct	85.9	84.2	85.4	72.8
	Indirect	24.0	40.6	43.5	43.4
	Induced	15.2	21.3	22.4	21.4
	<b>Total</b>	<b>125.1</b>	<b>146.1</b>	<b>151.2</b>	<b>137.6</b>
GVA (£m)	Direct	112.1	140.0	135.2	130.6
	Indirect	46.6	79.2	85.0	85.0
	Induced	27.8	38.9	40.8	39.0
	<b>Total</b>	<b>186.4</b>	<b>258.1</b>	<b>261.0</b>	<b>254.6</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, BARB, Ofcom, Omdia, ABS, public financial reports and ASHE

Notes:

See Appendix 3 for methodology

Figures may not sum to totals due to rounding

## 7.5. Spillover impacts

### 7.5.1. Merchandise

Merchandising is a crucial component of the animation programme sector and delivers a significant proportion of associated IP value. The spillover impacts of merchandise in terms of economic impact in the retail sector are likely to be large. However, they are difficult to measure and, outside of the two giants of the sector (*Peppa Pig and Thomas & Friends*), there is a long tail of brands. These include *Shaun the Sheep*, *The Amazing World of Gumball* and *Thunderbirds are Go*.

To estimate the merchandise spillovers associated with ATR programmes, data from a survey of ATR recipients undertaken for this study was combined with reports on the value of the global licensed merchandise market.

The survey indicated that ATR recipients earned a combined annual average total of £12.2 million in revenue from character licensing, merchandise sales, brand-related income and other income derived from animation properties.<sup>152</sup>

**Table 54**  
**Estimated annual licensing and brand revenue earned by ATR recipients, in total, over 2017-2019 (£m)**

	2017-2019 annual average
Character licensing royalties based on animation properties	4.8
Merchandise income based on animation properties	4.8
Other brand-related income	1.6
Other income derived from animation properties	1.0
<b>Total licensing and brand revenue</b>	<b>12.2</b>

Source: Olsberg•SPI/Nordicity estimates based on survey data

The economic impact ratios for the distribution of ATR programmes were used to estimate the economic impact of licensing and brand revenue earned by production companies that made ATR programmes. This showed an estimated economic impact of 40 FTEs, £3.3 million in GVA and £0.6 million in tax revenue in 2019.

**Table 55**  
**Economic impact of ATR-related licensing and brand revenue, 2016-2019**

	2016 <sup>1</sup>	2017	2018	2019
Licensing and brand revenue (£m)	6.8	6.8	6.5	5.0
Total employment impact (FTEs) <sup>2</sup>	70	50	50	40
Total GVA impact (£m) <sup>2</sup>	5.8	4.5	4.3	3.3
Total tax revenue impact (£m) <sup>2</sup>	1.0	0.8	0.8	0.6

Source: Olsberg•SPI/Nordicity estimates based on data from survey and Licensing International

Notes:

1. Figures for 2016 calculated in proportion to annual ATR spending
2. Includes direct, indirect and induced economic impacts

According to Licensing International, global royalty revenue totalled \$15.8 billion in 2019, or 5.4% of the total value of global sales of licensed merchandise and services.<sup>153</sup> From this, it is assumed that the character licensing royalties earned by companies receiving ATR represented 5.4% of global sales of licensed merchandise – ie global sales were worth approximately 20 times ATR companies' character licensing revenue.

<sup>152</sup>. The survey received 24 complete responses and 19 partial responses. These accounted for two thirds of the reported ATR spend between 2017 and 2019

<sup>153</sup>. *Global Licensing Survey*. Licensing International, 2021. Accessible at: <https://licensinginternational.org/get-survey/>



As noted above, the survey indicated that ATR recipients earned an annual average of £12.2 million in licensing revenue between 2017 and 2019. A 5.4% royalty rate implies that licensing revenue was associated with £226.2 million in global merchandise sales. This level of global sales was equivalent to 0.24% of total value of all global sales of licensed entertainment and character merchandise in 2019 (\$128.4 billion). Separately, it was determined that the UK probably accounts for 6.6% of the global merchandise market, or £14.9 million in revenue.

**Table 56**  
**Estimated value of merchandise sales associated with ATR programmes over 2017-2019 (excluding *Peppa Pig* and *Thomas & Friends* megabrands)**

	2017-2019 annual average
Licensing and brand revenue (£m)	12.2
Royalty rate	5.4%
Implied global sales of licensed merchandise (£m)	226.2
Implied UK sales of licensed merchandise (£m)	14.9

Source: Olsberg•SPI/Nordicity estimates based on data from survey and Licensing International

To this estimation of UK sales derived from the survey data, specific estimates for two global megabrands – *Peppa Pig* and *Thomas & Friends* – were added using the following assumptions:

- Data published by Entertainment One in 2019 indicated that global sales of *Peppa Pig* merchandise reached \$1.35 billion in 2019. Using this global total, UK sales were estimated to be £70 million.<sup>154</sup>
- Data published by Mattel Inc. in its annual report indicates that its Fisher Price and *Thomas & Friends* brands generated \$1.1 billion in global sales in 2019. It was assumed that *Thomas & Friends* brands accounted for one-third of this total and that the UK market accounted for £31.5 million of total sales.<sup>155, 156</sup>

These two megabrands, therefore, generated an estimated £101.5 million in retail sales in the UK in 2019. In total, it was estimated that ATR-related brands generated £113.8 million in merchandise sales in the UK in 2019.

<sup>154</sup>. According to Licensing International's 2019 *Global Licensing Survey*, Western Europe accounted for 19.5% of global retail sales of licensed merchandise in 2018. Given that the UK accounted for 34% of the total population of Western Europe, sales of licensed merchandise in the UK were deemed to account for 6.6% (19.5% x 34% = 6.6%) of global sales of licensed merchandise. When this 6.6% market share was applied to \$1.35 billion in *Peppa Pig* merchandise sales in 2019, it was concluded that the UK accounted for £70 million (6.6% x \$1.35 billion x £0.78 per \$1 = £70 million)

<sup>155</sup>. While the precise share accounted for by the *Thomas & Friends* brand is not publicly reported, because it is a single line of toys compared to the multiple toy lines sold under the Fisher Price brand, it was assumed that the *Thomas & Friends* brand accounted for a minority share of the combined value of the two brands (ie below 50%). However, as a 'named' brand among the two brands sharing this category, we believe the share accounted for by the *Thomas & Friends* brand would be significant enough to account for at least one-third of the combined value of *Thomas & Friends* and Fisher Price brands

<sup>156</sup>. According to Licensing International's 2019 *Global Licensing Survey*, Western Europe accounted for 19.5% of global retail sales of licensed merchandise in 2018. Given that the UK accounted for 34% of the total population of Western Europe, sales of licensed merchandise in the UK were deemed to account for 6.6% (19.5% x 34% = 6.6%) of global sales of licensed merchandise. When this 6.6% market share was applied to the estimated \$374 million in *Thomas & Friends* merchandise sales in 2019 (ie one-third of \$1.1 billion), it was concluded that the UK accounted for £31.5 million (6.6% x \$374 million x £0.78 per \$1 = £31.5 million)

**Table 57**  
**ATR-related merchandise sales in the UK, 2016-2019 (£m)**

	2016	2017	2018	2019
Merchandise sales implied by survey	16.4	16.7	15.9	12.3
<i>Peppa Pig</i> (est.)	54.0	61.0	65.0	70.0
<i>Thomas &amp; Friends</i> (est.)	45.5	38.6	34.4	31.5
<b>Total merchandise sales</b>	<b>115.9</b>	<b>116.3</b>	<b>115.3</b>	<b>113.8</b>

Source: Olsberg•SPI/Nordicity estimates based on data from survey, Licensing International, Entertainment One and Mattel Inc.

The employment and GVA ratios for the UK retail sector were used to estimate the annual employment and GVA impacts of ATR-related merchandise sales. In 2019, merchandise sales in the UK associated with ATR programmes generated an estimated 590 FTEs, £27.3 million in GVA and £8.4 million in tax revenue.

**Table 58**  
**Economic impact of ATR-related merchandise sales in the UK, 2016-2019**

	2016 <sup>1</sup>	2017	2018	2019
Merchandise sales (£m)	115.9	116.3	115.3	113.8
Retail margin <sup>2</sup> (£m)	34.8	34.9	34.6	34.1
Total employment impact (FTEs) <sup>3</sup>	670	650	630	590
Total GVA impact (£m) <sup>3</sup>	27.8	27.9	27.6	27.3
Total tax revenue impact (£m) <sup>3</sup>	8.5	8.5	8.5	8.4

Source: Olsberg•SPI/Nordicity estimates based on data from survey and Licensing International

Notes:

1. Figures for 2016 calculated in proportion to annual ATR spending
2. 30% retail margin earned by UK-based retailers
3. Includes direct, indirect and induced economic impacts

## 7.5.2. Tourism

There are also likely to be significant spillover economic benefits to the tourism sector from animation programmes. It has not proven possible to estimate these as visitor data were not available for the largest likely sources of revenue from this sector – theme parks related to *Peppa Pig*, *Thomas & Friends* and *CBeebies*.

CBeebies Land opened at Alton Towers in Staffordshire in 2014 with a mix of rides, attractions and shows for family visitors to the park. Entry to CBeebies Land is included in the broader park ticket and is regularly updated to showcase some of the most popular CBeebies properties, including *Hey Duggee*, *In the Night Garden* and *Teletubbies*.

Peppa Pig World at Paultons Park in Hampshire features a number of rides and attractions for visitors to the theme park. Peppa Pig World opened in 2011, with an expansion of two new rides, a baby care centre and a catering outlet in 2018. Entry to Peppa Pig World is covered by the Paultons Park ticket; however, the park's managing director has stated that opening Peppa Pig World has had a dramatic effect on visitor numbers, which are consistently over 1 million annually, from around 500,000 previously.<sup>157</sup>

Beyond the theme park, theatre company Fierylight has toured live *Peppa Pig* shows since 2009, including *Peppa Pig's Adventure* in 2017-2018 and *Peppa Pig: Best Day Ever* and *Peppa Pig: My First Concert* in 2019. The shows have travelled across the UK and have reportedly been viewed by over 1.5 million people.<sup>158</sup>

Other animated programmes have also been adapted into theatre or musical shows, including *Teletubbies*.<sup>159</sup> Aardman has previously partnered with Carrot Productions for a *Wallace & Gromit* touring orchestral show in spring 2019. *Wallace & Gromit's Musical Marvels* toured 18 venues across the UK in 2019, combining animated clips and *The Wrong Trousers* film with the Picture House Orchestra.<sup>160</sup>

While no reasonable basis to estimate the impact of this spillover effect through other approaches was identified, it is likely, based on audience ratings, that growth is strong and profitable, with significant employment.

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<sup>157</sup>. *InsideTripAdvisor's number 1 UK theme park, Paultons Park*. Blooloo, 28 February 2018. Accessible at: <https://blooloo.com/theme-park/in-depth/paultons-park-peppa-pig-world-mancey/>

<sup>158</sup>. *Peppa Pig Live 2019*. What's On MCR webpage, 20 May 2019. Accessible at: <https://www.whatsonmcr.co.uk/peppa-pig-live-2019/>.

<sup>159</sup>. A list of 2018 dates for a *Teletubbies Live* show is accessible at: <https://www.ents24.com/uk/tour-dates/teletubbies-live>

<sup>160</sup>. *Wallace & Gromit's Musical Marvels*, webpage. Accessible at: <https://wallaceandgromit.com/news/wallace-gromit-s-musical-marvels>

## 7.6. Overall economic contribution

Including spillover impacts, the overall economic contribution of ATR programme production in 2019 amounted to 4,360 FTEs, £285.2 million in GVA and £110.2 million in tax revenue.

**Table 59**

**Summary of overall economic contribution of ATR programmes, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Total economic impact	3,290	4,110	4,100	3,730
	Spillover impacts	740	700	680	630
	<b>Total</b>	<b>4,030</b>	<b>4,810</b>	<b>4,780</b>	<b>4,360</b>
GVA (£m)	Total economic impact	186.4	258.1	261.0	254.6
	Spillover impacts	33.6	32.4	32.0	30.6
	<b>Total</b>	<b>220.1</b>	<b>290.5</b>	<b>293.0</b>	<b>285.2</b>
Tax revenue (£m)	Total economic impact	58.8	98.2	104.7	101.3
	Spillover impacts	9.5	9.4	9.3	9.0
	<b>Total</b>	<b>68.3</b>	<b>107.6</b>	<b>114.0</b>	<b>110.2</b>

Source: Olsberg•SPI/Nordicity estimates

Note:

Figures may not sum to totals due to rounding

## 7.7. Impact of Animation Tax Relief

To calculate the impact of ATR, it was first necessary to estimate the taxation revenues arising from the activity supported by the tax relief.

This analysis shows that ATR-supported production generated an estimated £110.2 million in tax revenue in 2019, including £25.2 million in VAT on video platform subscriptions and transactions, and £85.0 million in other taxes (for example, Income Tax, National Insurance Contributions and Corporation Tax).<sup>161</sup>

<sup>161</sup>. See Appendix 3 for details of tax revenue calculation

**Table 60**  
**HM Treasury revenue generated by animation programmes, 2016-2019 (£m)**

	2016	2017	2018	2019
Direct VAT	4.8	19.0	23.0	25.2
Direct	38.8	53.5	54.1	49.0
Indirect	9.4	17.0	18.4	18.2
Induced	5.8	8.7	9.3	8.8
Spillover	9.5	9.4	9.3	9.0
<b>Total</b>	<b>68.3</b>	<b>107.6</b>	<b>114.0</b>	<b>110.2</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, BARB, Ofcom, Omdia, ABS, IDBR, BRES, ASHE, ONS and HM Revenue & Customs (HMRC)

Notes:

See Appendix 3 for methodology

Figures may not sum to totals due to rounding

To assess the impact of ATR, a survey of production companies was conducted for this study to ascertain the portion of animation programme production that would have occurred in the absence of ATR. This allowed the calculation of a rate of additionality applicable to the existing level of ATR-supported production. This survey research indicated an additionality rate of 50%.

This additionality rate was applied to the production sub-sector, while other sectors were discounted to reflect lower anticipated additionality rates.<sup>162</sup>

Based on the additionality rates applied to the each of the sub-sectors, ATR outlays in 2019 yielded a return on investment (RoI) of £4.53 in terms of GVA. This means that each pound of ATR yielded £4.53 of GVA for the UK economy in 2019.

**Table 61**  
**ATR return on investment, 2016-2019**

	2016	2017	2018	2019
Total expenditures (£m)	114.7	89.0	84.5	65.3
Tax relief outlays (£m) <sup>1</sup>	22.9	17.8	16.9	13.1
Overall economic contribution (£m)	220.1	290.5	293.0	285.2
Additional GVA (£m)	101.1	70.0	63.2	59.2
<b>GVA RoI (£)<sup>2</sup></b>	<b>4.41</b>	<b>3.94</b>	<b>3.74</b>	<b>4.53</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, Ofcom, Omdia, ABS, IDBR, BRES, public financial reports, ASHE, ONS and HMRC

Notes:

1. Estimated at 20% of total expenditures

2. RoI is measured as pound returned per £1 of tax relief and takes into account the net impacts and tax relief outlays in the specific year

<sup>162</sup>. See Appendix 3 for details

**THE CHILDREN'S  
TELEVISION  
PROGRAMME  
SECTOR**

**00**

## 8.1. Context and key findings

From *Horrible Histories* to *The Worst Witch*, the UK has a long tradition of producing high-quality children's television programmes.

Children's Television Tax Relief (CTR) was introduced in 2015 with the aim of encouraging the production of culturally British children's television programmes in the UK.<sup>163</sup> It was first analysed as a sector in the previous edition of *Screen Business*.

In 2019, CTR supported £86.0 million of UK spend.<sup>164</sup> The value chain supported 1,610 direct full-time equivalent (FTE) jobs and generated £132.2 million in direct gross value added (GVA). Including indirect and induced impacts, this increases to 4,030 FTEs in 2019, with £264.1 million in contributions to national gross domestic product (GDP).

CTR generated strong returns for HM Treasury over 2017-2019. In 2019, each pound of CTR granted yielded an additional £3.20 in GVA for the UK economy.

### Note

2016 data have been revised from the previous edition of *Screen Business* to account for updates in projects tracked by the BFI since publication. For example, when *Screen Business* was published in 2018, total CTR expenditure was reported by the BFI to be £61.0 million for 2016. This total has since been revised to £65.8 million. Analysis in this chapter is based on projects certified to the end of 2020 only, so data may change in time as new applications for the years in question are submitted.

## 8.2. Value chain overview

As with the other screen sectors in this study, a value chain approach to the children's television sector has been undertaken to analyse the impact of content produced through CTR.

This value chain is very similar to high-end television (HETV) and animation programmes; it begins with the conception and development of a project by a production company, which is then filmed and packaged for broadcast. Usually, such content is commissioned by a broadcaster or streaming platform, with no intermediary between this and the production stage. To qualify for CTR, productions must qualify as British under the children's television cultural test or under an official co-production treaty; it must be intended for broadcast (including the internet) and must have a primary target audience under the age of 15.<sup>165</sup>

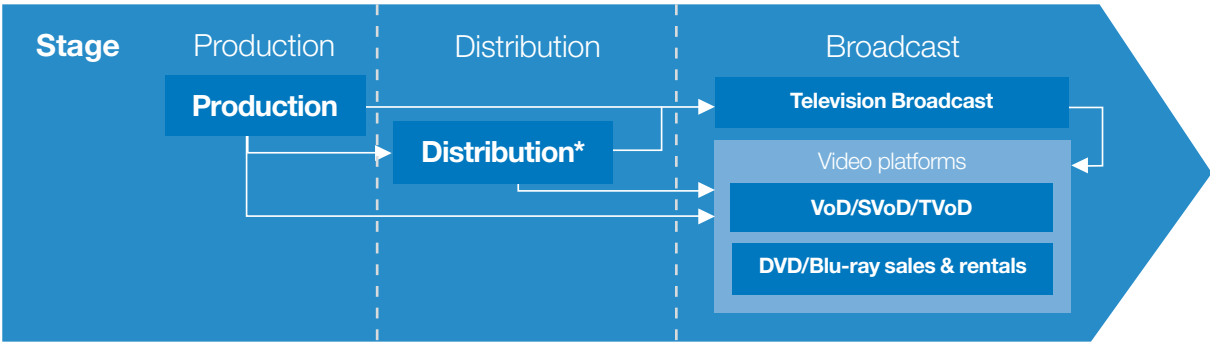
<sup>163</sup>. Children's television tax relief. Ibid

<sup>164</sup>. Source: The BFI Research and Statistics Unit

<sup>165</sup>. *About UK Creative Industry Tax Reliefs*. The BFI webpage. Accessible at: <https://www.bfi.org.uk/apply-british-certification-tax-relief/about-uk-creative-industry-tax-reliefs>

While broadcasters are ordinarily the primary, and often secondary, customers for this content, it has value in downstream windows such as digital video platforms and the DVD/Blu-ray market, and will often also be sold into foreign markets for television broadcast. Distributors take the role of selling the content into these further markets and windows (Figure 25). As with the animation programme sector, these markets and windows continue to provide a valuable source of additional revenue, whether from physical video sales, video-on-demand (VoD), transactional video-on-demand (TVoD), or subscription video-on-demand (SVoD) platforms – which curate libraries of content suitable (and often securely ring-fenced) for younger audiences.

**Figure 25**  
**Children’s television programme value chain**



\* A distributor may or may not be involved, depending on the structure of the production

## 8.3. Direct impact

### 8.3.1. Production

As with the other production sub-sectors in this study, the Job Creation Model was used to ascertain FTEs, compensation of employment (CoE) and GVA generated through investment in children’s television production.<sup>166</sup> This model, produced as part of a separate study, analyses the relationship between production spending, genre, and job creation. By using the relationships indicated in this study, the impacts of production spending supported by CTR can be estimated.

This model indicated that each million pounds of CTR production generated 12.6 direct FTEs, £0.49 million in direct employment compensation and £0.59 million in direct GVA in 2016. After making adjustments for changes in wage rates within the UK, the job creation ratios for subsequent years were 12.4 in 2017, 11.8 in 2018 and 11.9 in 2019.

Based on this model, direct economic impacts are outlined in Table 62.

<sup>166</sup> Further information on the Job Creation Model can be found in Section 4.3.1.



**Table 62**  
**Direct economic impact of CTR production, 2016-2019**

	2016	2017	2018	2019
UK spend (£m)	65.8	74.1	117.4	86.0
Employment (FTEs)	830	920	1,390	1,030
CoE (£m)	32.3	36.4	57.6	42.2
GVA (£m)	39.0	43.9	69.5	50.9

Source: Olsberg+SPI/Nordicity estimates based on data from the BFI, ABS, ASHE, the BFI Research and Statistics Unit  
 Note:

See Appendix 3 for description of methodologies and assumptions

### 8.3.2. Television broadcast

As with the other screen sectors analysed in this study, when CTR-supported content is broadcast on television, it generates added economic value for the UK over and above the labour required at UK broadcasters to deliver the content to consumers. This represents a fraction of the total value added within broadcasters through the activities of acquiring content and managing such transmissions.

To calculate the marginal impact of such activity within the television broadcasting part of the value chain, an economic share was calculated using viewing data from the Broadcasters Audience Research Board (BARB) for the productions in receipt of CTR. To estimate the economic share, the BFI calculated the aggregate audience share (measured in terms of viewing minutes) for all CTR titles on television in the UK in 2017, 2018 and 2019.

**Table 63**  
**Calculation of CTR viewing share**

	2017	2018	2019
CTR viewing minutes (millions)	19.7	23.2	26.2
Total minutes of viewing to all channels (in BARB sample) (millions)	1,824.1	1,678.9	1,547.4
<b>CTR viewing share</b>	<b>1.1%</b>	<b>1.4%</b>	<b>1.7%</b>

Source: The BFI and BARB

These annual overall viewing shares for CTR were then multiplied by total revenue within the UK television broadcasting sector to estimate the attributable revenue.<sup>167</sup>

The results of this analysis pointed to an economic share of 1.10% for CTR-supported content in the television broadcast market in 2017, increasing to 1.70% in 2019. This implies that UK broadcasters earned an estimated £224.9 million of revenue which was attributable to CTR in 2019 (Table 64). This revenue supported 400 direct FTEs, £22.5 million in employment compensation, and £40.5 million in GVA in 2019.

<sup>167</sup>. See Table 21

**Table 64**  
**Direct economic impact of CTR-supported content on UK television, 2016-2019**

	2016	2017	2018	2019
Economic share	0.08%	1.10%	1.40%	1.70%
Attributable revenue (£m)	10.9	147.5	189.4	224.9
Employment (FTEs)	20	310	380	400
CoE (£m)	1.2	14.8	18.9	22.5
GVA (£m)	3.9	29.5	28.4	40.5

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, BARB, Ofcom, ABS and ASHE

Note:

See Appendix 3 for description of methodologies and assumptions

The direct and total value chain impact of CTV was significantly lower in 2016 than in 2017 and thereafter, in large part because of the low economic share (0.08%) of the content in the downstream sub-sectors in 2016 compared to subsequent years. This lower economic share can be explained, in part, by the fact that CTR was introduced in 2015 and its benefits were yet to be fully realised. Difference in the methodology used to calculate the economic share may also explain this.<sup>168</sup>

### 8.3.3. Distribution

As with the other sectors analysed for this study, CTR-supported productions generate economic impact through distribution. This includes physical and digital video, as well as secondary sales to broadcasters.

To calculate the impact of CTR-supported content through this sub-sector, the economic share was also used. As not all television genres are suited to distribution, this economic share was amended, with genres such as news being removed from the base calculation. This resulted in an adjusted economic share for children's television programmes of 0.14% in 2016, increasing to 2.81% in 2019. This economic share was applied to a pro-rata share of activity in *SIC 59.13/3, Television programme distribution activities*, the element of the Annual Business Survey (ABS) dataset within which this economic activity took place.

This analysis shows that CTR-supported productions generated £63.8 million in attributable revenue for distributors in 2019 (Table 65). This provided £4.5 million in direct employment compensation and £22.1 million in direct GVA, supporting 50 FTEs.

<sup>168</sup> For 2016, the economic share was based on an analysis of a sample of CTR titles conducted by Attentional. For 2017 to 2019, a new methodology was implemented whereby the BFI used audience data from BARB to estimate the audience size of each title. The audiences across all CTR titles were summed and then compared to the level of overall viewing to estimate the economic share in each year. This economic share was then multiplied by total revenue within the UK broadcasting sector (published by Ofcom) to estimate the monetary value of CTR programming. See Appendix 3 for further description of the Attentional and the BFI-BARB methodologies

**Table 65**  
**Direct economic impact of distribution of CTR, 2016-2019**

	2016	2017	2018	2019
Economic share of television broadcast market	0.08%	1.10%	1.40%	1.70%
Adjusted economic share of television distribution market	0.14%	1.80%	2.31%	2.81%
Attributable revenue (£m) <sup>169</sup>	1.2	27.9	37.5	63.8
Employment (FTEs)	<10	20	40	50
CoE (£m)	0.1	2.2	3.6	4.5
GVA (£m)	0.4	9.6	15.3	22.1

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, BARB, Ofcom, ABS and ASHE

Note:

See Appendix 3 for description of methodologies and assumptions

### 8.3.4. Video platforms

To estimate the impact of CTR-supported production on video platforms, a similar approach to that for distribution was taken, with the economic share for broadcast being used as the basis for the calculation. In this case, the economic share in the television market was adjusted to reflect the fact that certain genres predominated consumer purchases and audience viewing on physical and digital video platforms between 2017 and 2019, in relation to broadcast television viewing. This calculation takes into account both DVD/Blu-ray sales in the UK, and the programming generally available on digital video platforms.<sup>170</sup>

This adjusted economic share was applied to *SIC 47, Retail trade, except of motor vehicles and motorcycles* for physical sales. Published data on the operations of major digital video platforms were used to estimate this element of the sub-sector.

Based on this approach, it was calculated that CTR-supported productions accounted for 130 FTEs in the video platforms sub-sector in 2019, £6.3 million in direct employment compensation and £18.7 million in direct GVA (Table 66).

<sup>169</sup>. The attributable revenue is higher in 2017 due to the higher economic share and a 72% increase in turnover in the TV distribution SIC (as per the ABS). However, the employment generated by the SIC (as per BRES) did not rise as steeply in 2017

<sup>170</sup>. This approach is detailed in Appendix 3

**Table 66**  
**Direct economic impact of CTR on video platforms, 2016-2019 (£m, unless indicated otherwise)**

		2016	2017	2018	2019
Revenue value of CTR	Physical	0.8	11.2	14.6	18.6
	Digital	3.2	57.1	85.1	121.7
	<b>Total</b>	<b>4.0</b>	<b>68.3</b>	<b>99.7</b>	<b>140.3</b>
Employment (FTEs)	Physical	10	60	80	90
	Digital	<10	20	30	40
	<b>Total</b>	<b>10</b>	<b>80</b>	<b>110</b>	<b>130</b>
CoE	Physical	0.1	1.4	1.8	2.3
	Digital	0.1	1.9	2.8	4.0
	<b>Total</b>	<b>0.2</b>	<b>3.3</b>	<b>4.6</b>	<b>6.3</b>
GVA	Physical	0.2	2.4	3.6	4.0
	Digital	0.4	6.9	10.3	14.7
	<b>Total</b>	<b>0.6</b>	<b>9.3</b>	<b>13.9</b>	<b>18.7</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Omdia, ABS, Attentional, BARB, public financial reports and ASHE

Notes:

See Appendix 3 for description of methodologies and assumptions

Figures may not sum to totals due to rounding

### 8.3.5. Summary of direct economic impact

Bringing the analysis of these sub-sectors together indicates that the total value chain impact of CTR-supported productions in 2019 was equal to 1,610 FTEs, £75.5 million in direct employment compensation and £132.2 million in GVA (Table 67).

**Table 67**

**Direct economic impact generated by CTR-supported productions throughout all parts of the value chain, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Production	830	920	1,390	1,030
	Distribution	<10	20	40	50
	TV broadcast	20	310	380	400
	Video platforms <sup>†</sup>	10	80	110	130
	<b>Total</b>	<b>860</b>	<b>1,330</b>	<b>1,920</b>	<b>1,610</b>
CoE (£m)	Production	32.3	36.4	57.6	42.2
	Distribution	0.1	2.2	3.6	4.5
	TV broadcast	1.2	14.8	18.9	22.5
	Video platforms <sup>†</sup>	0.2	3.3	4.6	6.3
	<b>Total</b>	<b>33.8</b>	<b>56.6</b>	<b>84.7</b>	<b>75.5</b>
GVA (£m)	Production	39.0	43.9	69.5	50.9
	Distribution	0.4	9.6	15.3	22.1
	TV broadcast	3.9	29.5	28.4	40.5
	Video platforms <sup>†</sup>	0.6	9.3	13.9	18.7
	<b>Total</b>	<b>43.8</b>	<b>92.3</b>	<b>127.1</b>	<b>132.2</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, BARB, Ofcom, ABS and ASHE

Notes:

Figures may not sum to totals due to rounding

† Includes DVD sales and rentals, and digital video platforms

## 8.4. Total economic impact

As with the other sectors, multiplier effects were estimated through the use of a bespoke model based on Office for National Statistics (ONS) input-output (I-O) tables. These enable an estimate of how the children's television sector value chain generates additional economic impact through its purchases of goods and services (indirect impact), and the economic activity of its direct and indirect employees (induced impact).

This modelling shows that CTR-supported productions generated 2,420 indirect and induced FTEs in 2019, bringing total value chain employment impacts to 4,030 FTEs (Table 68). The total economic impact across the total value chain also generated £144.6 million in employment compensation and £264.1 million in GVA.

**Table 68**  
**Total economic impact generated by CTR throughout all parts of the value chain, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	860	1,330	1,920	1,610
	Indirect	500	1,070	1,470	1,600
	Induced	300	580	830	820
	<b>Total</b>	<b>1,660</b>	<b>2,980</b>	<b>4,220</b>	<b>4,030</b>
CoE (£m)	Direct	33.8	56.6	84.7	75.5
	Indirect	13.2	30.1	42.5	46.1
	Induced	8.0	15.6	22.7	23.0
	<b>Total</b>	<b>54.9</b>	<b>102.2</b>	<b>150.0</b>	<b>144.6</b>
GVA (£m)	Direct	43.8	92.3	127.1	132.2
	Indirect	25.5	58.5	82.9	90.2
	Induced	14.6	28.3	41.2	41.7
	<b>Total</b>	<b>83.9</b>	<b>179.1</b>	<b>251.2</b>	<b>264.1</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, BARB, Ofcom, ABS and ASHE

Notes:

See Appendix 3 for description of methodologies and assumptions

Figures may not sum to totals due to rounding

## 8.5. Spillover impacts

CTR-supported programming creates a range of spillover impacts. These include tourism and leisure attractions, as outlined in this section. However, sufficiently detailed economic impact data are challenging to identify, and the examples presented aim to provide an overview of the types of impacts being generated by the sector.

### *Horrible Histories*

Based on Terry Deary's successful series of books, CBBC's *Horrible Histories* series began in 2009. A film, *Horrible Histories: Rotten Romans*, was released in 2019; two new editions of the *Rotten Romans* book were published to tie in with the release.<sup>171</sup>

Deary has published a number of books under the *Horrible Histories* umbrella since 1993. Between 2017 and 2019, a number of new or reprinted *Horrible Histories* books have been published, including *Top 50 Kings and Queens* and *Cruel Kings and Mean Queens* and *Pirates*.

<sup>171</sup>. *New books to enjoy*. Terry Deary webpage. Accessible at: <http://www.terry-deary.com/pg/new-books>

Created by the Birmingham Stage Company in 2005, *the Horrible Histories* live performances have travelled across theatres in the UK and overseas, including Australia, New Zealand, Abu Dhabi and Singapore. The stage show *Barmy Britain* is the longest running children's show in West End history, and the *Horrible Histories* shows have been performed to more than 3 million people in the UK.<sup>172</sup> Between 2017 and 2019, the Birmingham Stage Company ran five *Horrible Histories* stage shows, including *Terrible Tudors*, *Barmy Britain*, *Gorgeous Georgians* and *Vile Victorians*. In addition to the West End production and travelling shows, the Birmingham Stage Company has worked with Historic Royal Palaces to perform at Hampton Court Palace, Kensington Palace, Hillsborough Castle and the Tower of London.<sup>173</sup>

Hampton Court Palace also hosts a live *Horrible Histories* performance in the East Front Gardens during the May half-term holiday each year. Tickets can be purchased for the performance only or in a package that provides entry to the performance, palace and gardens. Summer performances at Hillsborough Castle are included in the garden's admission tickets.

In 2016, a *Horrible Histories* adventure maze was established at Warwick Castle. Included in the castle's ticket price, the maze is an interactive walk-through experience for children of all ages that also includes an outdoor theatre performance titled *Wicked Warwick*.

Originally developed by the Australian National Maritime Museum in Sydney, a *Horrible Histories Pirates* exhibition opened at the Portsmouth Historic Dockyard in April 2019. The exhibition features over 30 interactive exhibits and games, and visitors can either buy a single attraction ticket or wider access tickets that allow entry to the Pirates exhibition and other attractions at the Dockyard.<sup>174</sup>

### **The Worst Witch**

A live performance of *The Worst Witch* began at the Royal and Derngate Theatre in Northampton in 2018 before touring the UK in early 2019. The play was then staged at the Vaudeville Theatre in London between July and September 2019. Adapted by *The Worst Witch* series lead writer Emma Reeves, it went on to win the Olivier award for Best Family Show in 2020.

### **Teacup Travels**

Between 16 October 2017 and 30 June 2018, the Oriental Museum at Durham University ran an event displaying a number of the artefacts that were the inspiration for episodes of the CBeebies series *Teacup Travels*. Visitors to the museum could follow a 'trail' through the museum to find the artefacts. Entry to the museum and the *Teacup Travels* trail were both free.

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**172.** *Horrible Histories: Barmy Britain Announces Further London Tour Dates*. Theatre Weekly, 14 August 2020. Accessible at: <https://theatreweekly.com/horrible-histories-barmy-britain-announces-further-london-tour-dates/>

**173.** About BSC. Birmingham Stage Company webpage. Accessible at: <https://www.birminghamstage.com/about/about-bsc>

**174.** Portsmouth Historic Dockyard webpage. Accessible at: <https://www.historicdockyard.co.uk/tickets-and-offers>

## 8.6. Overall economic contribution

As no spillover value has been included, the overall economic contribution is the same as total economic impact across the value chain.

**Table 69**

**Summary of overall economic contribution of UK CTV sector supported by tax relief, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Total economic impact	1,660	2,980	4,220	4,030
	Spillover impacts	0	0	0	0
	<b>Total</b>	<b>1,660</b>	<b>2,980</b>	<b>4,220</b>	<b>4,030</b>
GVA (£m)	Total economic impact	83.9	179.1	251.2	264.1
	Spillover impacts	0	0	0	0
	<b>Total</b>	<b>83.9</b>	<b>179.1</b>	<b>251.2</b>	<b>264.1</b>
Tax revenue (£m)	Total economic impact	21.6	53.5	77.7	84.0
	Spillover impacts	0	0	0	0
	<b>Total</b>	<b>21.6</b>	<b>53.5</b>	<b>77.7</b>	<b>84.0</b>

Source: Olsberg•SPI/Nordicity estimates

## 8.7. Impact of Children's Television Tax Relief

The activity of CTR-supported productions generated an estimated £84.0 million in tax revenue in 2019, including £23.8 million in VAT on video platform subscriptions and transactions, and £60.1 million in other taxes (for example, Income Tax, National Insurance Contributions and Corporation Tax).<sup>175</sup>

**Table 70**

**HM Treasury revenue generated by CTR, 2016-2019 (£m)**

	2016	2017	2018	2019
Direct VAT	0.7	11.6	16.9	23.8
Direct	12.7	23.8	34.9	32.3
Indirect	5.1	12.0	17.1	18.7
Induced	3.0	6.0	8.8	9.1
<b>Total</b>	<b>21.6</b>	<b>53.5</b>	<b>77.7</b>	<b>84.0</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, BARB, Ofcom, Omdia, ABS, BRES, public financial reports, ASHE, ONS and HM Revenue & Customs (HMRC)

Note:

Figures may not sum to totals due to rounding

<sup>175</sup>. See Appendix 3 for details of tax revenue calculation



To assess the impact of CTR, modelling was undertaken in relation to how the total economic contribution of the UK children’s television production sector supported by tax relief would change in its absence. The data for this was collected through a survey of children’s television producers, which indicated that the gross rate of additionality was 40%; ie in the absence of CTR, production spend on supported content in the UK would be 40% lower.

This additionality rate was applied to the production sub-sector, while other sub-sectors were discounted prior to the additionality calculation.<sup>176</sup>

Based on the additionality rates applied to each of the sub-sectors, HM Treasury’s outlays on CTR in 2019 yielded a return on investment (RoI) of £3.20 in GVA terms. This means that each pound of CTR generated £3.20 of economic activity for the UK economy which would not otherwise have existed.

**Table 71**  
**CTR return on investment, 2016-2019**

	2016	2017	2018	2019
Total expenditures (£m)	65.8	74.1	117.4	86.0
Tax relief outlays (£m) <sup>1</sup>	13.2	14.8	23.5	17.2
Overall economic contribution GVA (£m)	83.9	179.1	251.2	264.1
Additional GVA (£m)	35.8	43.0	62.2	55.1
<b>GVA RoI (£)<sup>2</sup></b>	<b>2.72</b>	<b>2.90</b>	<b>2.65</b>	<b>3.20</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional, BARB, Ofcom, Omdia, ABS, IDBR, BRES, public financial reports, ASHE, ONS and HMRC

Notes:

1. Estimated at 20% of total expenditures

2. RoI is measured as pounds per £1 of tax relief and takes into account the net impacts and tax relief outlays in the specific year

<sup>176</sup>. See Appendix 3 for details

# THE VISUAL EFFECTS SECTOR

9

## 9.1. Context

With its cutting-edge digital skills and the ability to make the impossible possible on screen, the visual effects (VFX) sector is an important component of the UK screen ecosystem. VFX is highly impactful across both film and high-end television (HETV) production and UK VFX studios such as DNEG, Milk, Framestore and BlueBolt have contributed to such innovative and award-winning productions as *Tenet*, *Chernobyl* and *His Dark Materials*.

Despite the fact that VFX is not the recipient of a standalone tax relief, the value of VFX as a separate element of the production sector has been analysed because of its importance as part of the production process. Some projects accessing tax relief may only undertake VFX work in the UK; Film Tax Relief and High-end Television Tax Relief both require at least 10% of a project's core expenditure to be UK spend and VFX spend alone may reach this level on some projects.

The importance of VFX within the screen sector tax reliefs is outlined in this section. As the analysis has not included areas of production undertaken without relief, such as commercials which benefit from UK skills and creativity in this area, the value of the whole UK VFX sector has also been assessed and is included in Appendix 2.

To undertake the analysis of VFX within the reliefs and the overall sector, a survey of VFX production companies was used to identify their turnover from all screen sectors.

Because of the overlap with the standalone tax relief analyses, results presented in this section should not be added to those in other sections.

### Note

2016 data have been revised from the previous edition of *Screen Business* to account for updates in projects tracked by the BFI since publication. Analysis in this chapter is based on projects certified to the end of 2020 only, so data may change in time as new applications for the years in question are submitted. In addition, adjustments have been made to the 2016 VFX data to account for an expanded cohort of VFX companies (derived from LinkedIn mapping) included in the analysis for 2017-2019

## 9.2. Direct impact

A survey of UK VFX companies was undertaken to establish spending within the sector. Survey results enabled the estimation of which tax relief was used to support VFX work, and how much was not reliant on any tax relief.

This analysis concluded that £363.5 million was spent on VFX on tax relief-supported productions in 2019 (Table 72). FTR-related production was the largest proportion of this, accounting for £309.0 million (85.0%) of the total. Projects supported by HETR accounted for £50.9 million (14.0%), while Animation Tax Relief (ATR) and Children's Television Tax Relief (CTR) productions both accounted for less than 1% of the total.

**Table 72****Total spending on VFX services for film and television production in the UK with tax relief support, 2016-2019 (£m)**

	2016	2017	2018	2019
FTR	216.4	269.4	324.5	309.0
HETR	22.0	28.6	32.9	50.9
ATR	1.4	2.7	4.2	3.2
CTR	0.0	0.6	0.3	0.3
<b>Total</b>	<b>239.8</b>	<b>301.3</b>	<b>361.9</b>	<b>363.5</b>

Source: Olsberg•SPI/Nordicity estimates based on data from survey of VFX companies, Companies House and D&B

Notes:

Excludes any revenue earned by VFX companies from video or audio post-production services

Excludes any spending on VFX services for commercials and other video products

Figures may not sum to totals due to rounding

These data imply that 15.3% of FTR-related expenditures in 2019 were on VFX, as well as 2.5% of HETR-related spend, 5.0% of ATR spend and 0.3% of CTR spend (Table 73).

**Table 73****VFX spend as a share of total UK spend by tax relief, 2016-2019 (£m)**

		2016	2017	2018	2019
FTR	VFX	216.4	269.4	324.5	309.0
	Non-VFX	1,655.5	1,951.5	1,736.8	1,706.8
	<b>Total</b>	<b>1,871.9</b>	<b>2,220.9</b>	<b>2,061.3</b>	<b>2,015.8</b>
	VFX share	11.6%	12.1%	15.7%	15.3%
HETR	VFX	22.0	28.6	32.9	50.9
	Non-VFX	955.2	1,197.5	1,357.7	2,027.4
	<b>Total</b>	<b>977.2</b>	<b>1,226.1</b>	<b>1,390.6</b>	<b>2,078.3</b>
	VFX share	2.3%	2.3%	2.4%	2.5%
ATR	VFX	1.4	2.7	4.2	3.2
	Non-VFX	113.3	86.3	80.3	62.1
	<b>Total</b>	<b>114.7</b>	<b>89.0</b>	<b>84.5</b>	<b>65.3</b>
	VFX share	1.2%	3.1%	5.0%	5.0%
CTR	VFX	0.0	0.6	0.3	0.3
	Non-VFX	65.8	73.5	117.1	85.7
	<b>Total</b>	<b>65.8</b>	<b>74.1</b>	<b>117.4</b>	<b>86.0</b>
	VFX share	0.0%	0.8%	0.2%	0.3%

Source: Olsberg•SPI/Nordicity estimates based on data from survey of VFX companies, Companies House and D&B

Note:

Figures may not sum to totals due to rounding

Using the Job Creation Model, total VFX production expenditure figures were analysed to estimate the value and impact of spending from each relevant tax relief through the VFX sector.<sup>177</sup> This analysis shows that VFX-related film and television production supported 5,470 full-time equivalent (FTE) jobs in 2019 and generated £265.0 million in compensation of employment (CoE) and £303.9 million in gross value added (GVA) (Table 74).

**Table 74**  
**Direct economic impact of VFX production within the tax reliefs, 2016-2019**

		2016	2017	2018	2019
FTR	VFX spend (£m)	216.4	269.4	324.5	309.0
	Employment (FTEs)	3,450	4,230	4,840	4,650
	CoE (£m)	157.8	196.4	236.6	225.3
	GVA (£m)	180.9	225.2	271.3	258.3
HETR	VFX spend (£m)	22.0	28.6	32.9	50.9
	Employment (FTEs)	350	450	490	770
	CoE (£m)	16.0	20.9	24.0	37.1
	GVA (£m)	18.4	23.9	27.5	42.6
ATR	VFX spend (£m)	1.4	2.7	4.2	3.2
	Employment (FTEs)	20	40	60	50
	CoE (£m)	1.0	2.0	3.1	2.4
	GVA (£m)	1.2	2.3	3.5	2.7
CTR	VFX spend (£m)	0.0	0.6	0.3	0.3
	Employment (FTEs)	0	10	0	0
	CoE (£m)	0.0	0.5	0.2	0.2
	GVA (£m)	0.0	0.5	0.2	0.2
<b>Total</b>	<b>VFX spend (£m)</b>	<b>239.8</b>	<b>301.3</b>	<b>361.9</b>	<b>363.5</b>
	<b>Employment (FTEs)</b>	<b>3,820</b>	<b>4,730</b>	<b>5,390</b>	<b>5,470</b>
	<b>CoE (£m)</b>	<b>174.8</b>	<b>219.7</b>	<b>263.8</b>	<b>265.0</b>
	<b>GVA (£m)</b>	<b>200.5</b>	<b>251.9</b>	<b>302.6</b>	<b>303.9</b>

Source: Olsberg•SPI/Nordicity estimates based on data from survey of VFX companies, Companies House and D&B

Notes:

Excludes any revenue earned by VFX companies from video or audio post-production services

Excludes any spending on VFX services for commercials and other video products

Figures may not sum to totals due to rounding

<sup>177</sup>. Further information on the Job Creation Model can be found in Section 4.3.1.

## 9.3. Total economic impact across value chain – tax relief-supported

Spending through the VFX sector generates indirect impacts through the purchase of goods and services from other sectors, and induced impacts through the re-spending of wages by direct and indirect employees. To estimate the value of these indirect and induced impacts, a bespoke model was generated through analysis of Office for National Statistics (ONS) input-output (I-O) tables.

This model indicates that the VFX sector generated a total economic impact of 7,750 FTEs, £324.5 million in employment compensation and £415.9 million in GVA in 2019 (Table 75).

**Table 75**  
**Total economic impact generated by VFX production in the UK within the tax reliefs, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	3,820	4,730	5,390	5,470
	Indirect	720	890	1,090	1,090
	Induced	790	980	1,190	1,190
	<b>Total</b>	<b>5,330</b>	<b>6,600</b>	<b>7,670</b>	<b>7,750</b>
CoE (£m)	Direct	174.8	219.7	263.8	265.0
	Indirect	18.0	22.1	27.1	27.3
	Induced	21.2	26.6	32.0	32.2
	<b>Total</b>	<b>214.0</b>	<b>268.4</b>	<b>322.9</b>	<b>324.5</b>
GVA (£m)	Direct	200.5	251.9	302.6	303.9
	Indirect	35.2	43.4	53.2	53.4
	Induced	38.7	48.4	58.4	58.6
	<b>Total</b>	<b>274.4</b>	<b>343.7</b>	<b>414.2</b>	<b>415.9</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, ABS, ASHE and survey of VFX companies

Note:

Figures may not sum to totals due to rounding

The data established in the various screen sectors through this study were used to apportion the direct, indirect and induced impacts of VFX spending through the value chains for the tax relief sectors. Based on this apportioning exercise, the total value chain impact of VFX production in the UK was 11,840 FTEs and £854.1 million in GVA in 2019 (Table 76).<sup>178</sup>

<sup>178</sup>. As these figures are derived from the production sectors above, they should not be added to other figures, as this would lead to double-counting and an inflated total figure

**Table 76****Total economic impact across the screen sector value chain attributable to UK-made VFX content, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Production	5,330	6,600	7,670	7,750
	Distribution	810	1,150	1,410	1,610
	Cinema exhibition	930	1,060	1,730	1,680
	Television broadcast	170	250	290	300
	Video platforms <sup>†</sup>	350	380	470	500
	<b>Total</b>		<b>7,590</b>	<b>9,440</b>	<b>11,570</b>
GVA (£m)	Production	274.4	343.7	414.2	415.9
	Distribution	157.2	214.1	279.2	291.2
	Cinema exhibition	45.0	52.2	92.5	92.7
	Television broadcast	17.3	18.6	18.7	23.0
	Video platforms <sup>†</sup>	17.5	21.3	28.5	33.1
	<b>Total</b>		<b>511.3</b>	<b>649.9</b>	<b>833.1</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Ofcom, Omdia, ABS, Attentional, BARB, public financial reports, Official Charts Company, BASE, ASHE and survey of VFX companies

Notes:

<sup>†</sup> Includes physical video (ie DVD sales and rentals), and digital video platforms

Figures may not sum to totals due to rounding

## 9.4. Overall economic contribution

Table 77 presents the overall economic contribution of VFX across the various sectors and sub-sectors, inclusive of the portion of the spillover impacts in the FTR, HETR and ATR sectors attributable to VFX. This approach involved pro-rating the spillover impacts from VFX within the tax reliefs analysed. For example, since VFX spending supported by FTR is estimated to have accounted for 15.3% of total FTR spend in 2019, 15.3% of FTR's spillovers were subsequently attributed to VFX. This logic was also applied to the value chain.

Including spillover impacts, the total economic impact of VFX was 20,050 FTEs and £1.29 billion in GVA in 2019.

**Table 77****Overall economic contribution across the screen sector value chain attributable to UK-made VFX content, including spillover impacts, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Value chain impact	7,590	9,440	11,570	11,840
	Spillover impacts	3,840	5,190	7,460	8,210
	<b>Total</b>	<b>11,430</b>	<b>14,630</b>	<b>19,030</b>	<b>20,050</b>
GVA (£m)	Value chain impact	511.3	649.9	833.1	855.9
	Spillover impacts	181.1	253.7	377.8	429.2
	<b>Total</b>	<b>692.4</b>	<b>903.6</b>	<b>1,210.9</b>	<b>1,285.1</b>

Source: Olsberg+SPI/Nordicity estimates based on data from the BFI, Ofcom, Omdia, ABS, public financial reports, ASHE and survey of VFX companies

Note:

Figures may not sum to totals due to rounding



# THE UK NATIONS AND ENGLAND'S REGIONS

The impact of the film and high-end  
television tax reliefs UK-wide

# 10

## 10.1. Overview

Recent years have seen increasing amounts of film and high-end television (HETV) production taking place outside of the Metro London hub. This includes *Game of Thrones*, *Line of Duty* and *Ordinary Love* in Northern Ireland, *Outlander*, *Shetland* and *Wild Rose* in Scotland and *Sex Education*, *His Dark Materials* and *Eternal Beauty* in Wales. A broad range of productions have been made in England's regions, including *Peaky Blinders*, *Ackley Bridge*, *The Personal History of David Copperfield* and *How to Build a Girl*.

This section provides an estimate of the impact of production on the UK nations and England's regions. Given data gaps, the analysis only focused on the film and HETV sectors, with results outlined in terms of production expenditure, and national/regional economic impact in terms of employment and gross value added (GVA).<sup>179</sup>

### Note on Metro London

While this study uses Eurostat's Nomenclature of Territorial Units for Statistics (NUTS) 1 approach to define England's regions, a new Metro London definition has also been created. Metro London combines Greater London with Hertfordshire (from the East of England) and Buckinghamshire and Surrey (the South East of England) to form a Metro London region that better reflects the geography of film and HETV production, given that several of the major studio facilities are located in these counties. The Metro London approach overcomes the imbalance that using NUTS 1 definitions around London would have created. Beyond these changes, the study continues to use the NUTS 1 regions including South East, which excludes Buckinghamshire and Surrey.

## 10.2. Outline of approach

Currently, there is no standard approach to measuring UK film and HETV production spend in the UK's nations and England's regions, and data are collected differently depending on the agency.

To remove these data collection discrepancies, a new production spend rate card was developed (Table 78). This rate card was based on an analysis of different production budgets provided by the BFI, and resulted in an average daily production spend depending on the type of project and budget level. This includes whether a project is domestic or inward investment, since budgets can differ between these two types of production. The rate card covers total spend during production, rather than only spend that occurs during filming on location.<sup>180</sup>

<sup>179</sup>. An analysis of the impact of the overall video games sector on the UK nations and England's regions is provided in Section 16.1.7.

<sup>180</sup>. As this is based on total expenditure, all elements of production are included

**Table 78**  
**UK production spend rate card**

Project category	Average daily production spend
Feature film (<£1.5m)	£29,400
Feature film (£1.5m - £9.9m)	£130,600
Feature film (£10m - £19.9m)	£226,800
Feature film (£20m - £59.9m)	£467,100
Feature film (£60m - £99.9m)	£828,700
Feature film (£100m+)	£1,303,500
HETV domestic/co-production	£149,200
HETV inward investment	£288,200

Source: Olsberg•SPI/Nordicity estimates based on budget data from the BFI

The daily spend averages were then multiplied by location filming days data, sourced from national and regional screen agencies. Northern Ireland, Scotland and Wales were estimated first and then deducted from the total UK production spend for film and HETV as reported by the BFI.

While the BFI data show overall production in these sectors, the scale of Film Tax Relief (FTR) and High-end Television Tax Relief (HETR) usage means that the analysis of spend can be considered to be an analysis of tax relief impacts in the nations and regions.<sup>181</sup>

The residual amount of production spend was then applied to England. The rate card was used to estimate total spend in each region of England as well as Metro London, based on data from Creative England, Film London and other regional sources. The sum of this spending was then compared to the England residual and the variance in production spending was then allocated across England's regions and Metro London on a pro-rata basis – based on each jurisdiction's share of the rate card spending.<sup>182</sup> To account for the fact that the vast majority of VFX and post-production work is done in Metro London, a nominal 15% of the estimated levels of production spending in England's regions outside of Metro London was assigned to Metro London.

Further analysis was then undertaken because not all production spend would in fact be retained by resident workers and businesses within the nation or region where the production spending occurred. This is because productions may utilise equipment, supplies, services or crew from outside the nation or region in which production is occurring.

<sup>181</sup>. Since a wide range of factors influence the placement of a production in a nation or region – including the availability of locations, talent, infrastructure and finance – this should be considered an analysis of how FTR and HETR spend is dispersed, and not an analysis of how these tax reliefs specifically influence production flows around the UK

<sup>182</sup>. The estimates derived on the basis of this approach for the North West and South West were supplemented by additional data provided by the Liverpool Film Office and The Bottle Yard Studios in Bristol to account for specific gaps in the annual number of filming days reported to Creative England

To estimate retained spend, a location-quotient model – based on data published by the Office for National Statistics (ONS) – was developed to estimate the portion of production spend in a nation or region that would likely be retained within the local economy. The ONS publishes location quotients for most regions of the UK; however, they can also be calculated using detailed industry employment data published by ONS at a regional level. For the film and television production industry, the location quotients were calculated directly from employment data.

Location quotients compare the intensity of employment in a given industry and region to the national average. For example, if a particular region accounts for 5% of overall UK employment but only 2% of employment in a specific industry, then the location quotient for that region and industry would be 0.4 (ie  $2\% \div 5\%$ ). This suggests that the particular industry is much less prominent in that region of the UK. Therefore, if a particular region accounted for 5% of all employment in the UK but accounted for only 2% of UK-wide employment in film and television production, the location-quotient model would imply that 40% of total spend is likely to be retained in region and paid to local crew and suppliers.

Any spend not retained locally was then distributed across the UK based on each nation and region's share of UK GVA.

The resulting aggregate spend was then used to apportion the total UK-wide impact of the film and HETV sectors – and, therefore, the impact of FTR and HETR. A region accounting for 5% of aggregate spend would account for 5% of total employment and GVA generated by film or HETV production in a given year.

## 10.3. Impacts

The results of the analysis differ by production type – ie whether film or HETV – for a number of reasons. Film has typically been associated with the Metro London area because of its specialised studio facilities and supply chain vendors. HETV, by comparison, is less focused on Metro London, with producers placing sizeable productions in the nations or regions provided the right combination of facilities – which may be converted from industrial buildings – crew, locations and, where relevant, additional funding sources can be found.

Both sectors show clear year-on-year fluctuations across the nations and regions, which typically relates to one or more sizeable projects being located in the nation or region in one year and the scale of that production not being duplicated in the following year. This is particularly apparent in the film sector.

### 10.3.1. High-end television

Since the introduction of HETR in 2013, related UK expenditure has seen a huge increase from £392.8 million in 2013 to £2.08 billion in 2019. A significant amount of the sector's production activity takes place in the UK nations and England's regions, with an estimated £1.56 billion in production spend, or around 33% of the UK total, being undertaken outside of Metro London between 2017–2019.

In 2019, HETV spend generated 33,548 FTE jobs in Metro London and 15,612 throughout the rest of the UK, including direct, indirect and induced effects. Taking into consideration the total impact of the HETV content value chain, including direct, indirect and induced effects, 45,240 FTE jobs were created in Metro London in 2019 and 19,070 throughout the rest of the UK.

In GVA terms, HETV spend generated £1.67 billion in GVA in Metro London in 2019 and £778.3 million throughout the rest of the UK, including direct, indirect and induced effects. Taking into consideration the total impact of the HETV content value chain, including direct, indirect and induced effects, £2.64 billion in GVA was generated in Metro London in 2019 and £1.04 billion throughout the rest of the UK.

HETV spend activity is more regional than film, with several parts of the UK hosting major HETV productions. From the analysis in this section, there is particular evidence of HETV activity between 2017 and 2019 in Northern Ireland, Scotland and Wales, as well as the North West of England, the South West of England, and Yorkshire and the Humber.

The issue of fluctuation due to sizeable projects is evident in several parts of the UK.

**Table 79**  
**Total HETV production spend, by UK nation and England's regions (£m)**

		2017	2018	2019
Spend (£m)	East Midlands	3.4	1.5	0.3
	East of England	1.6	1.6	17.8
	Metro London	806.2	990.4	1,341.6
	Northern Ireland	149.2	89.5	29.6
	North East	13.3	9.0	14.4
	North West	54.2	91.3	262.2
	Scotland	81.3	80.3	104.9
	South East	13.4	8.9	46.4
	South West	25.6	33.5	126.3
	Wales	31.3	24.2	71.4
	West Midlands	0.1	12.1	3.7
	Yorkshire and the Humber	46.5	48.3	59.7
	<b>Total</b>		<b>1,226.1</b>	<b>1,390.6</b>
Share of total spend	East Midlands	0.3%	0.1%	<0.1%
	East of England	0.1%	0.1%	0.9%
	Metro London	65.8%	71.2%	64.6%
	Northern Ireland	12.2%	6.4%	1.4%
	North East	1.1%	0.6%	0.7%
	North West	4.4%	6.6%	12.6%
	Scotland	6.6%	5.8%	5.0%
	South East	1.1%	0.6%	2.2%
	South West	2.1%	2.4%	6.1%
	Wales	2.6%	1.7%	3.4%
	West Midlands	<0.1%	0.9%	0.2%
	Yorkshire and the Humber	3.8%	3.5%	2.9%
	<b>Total</b>		<b>100%</b>	<b>100%</b>

Source: Olsberg•SPI/Nordicity estimates

Note:

Figures may not sum to totals due to rounding

**Table 80****Total economic impact of HETV production, by UK nation and England's regions  
(includes direct, indirect and induced effects)**

		2017	2018	2019
Employment (FTEs)	East Midlands	324	276	452
	East of England	483	417	754
	Metro London	21,181	24,293	33,548
	Northern Ireland	1,778	1,047	486
	North East	215	162	274
	North West	1,328	1,731	4,458
	Scotland	1,632	1,495	2,091
	South East	936	810	1,640
	South West	772	772	2,086
	Wales	644	495	1,260
	West Midlands	411	380	591
	Yorkshire and the Humber	547	682	1,518
	<b>Total</b>	<b>30,250</b>	<b>32,560</b>	<b>49,160</b>
GVA (£m)	East Midlands	15.5	13.9	22.5
	East of England	23.0	21.0	37.5
	Metro London	1,012.1	1,223.2	1,672.0
	Northern Ireland	85.0	52.7	24.2
	North East	10.3	8.2	13.7
	North West	63.4	87.1	222.1
	Scotland	78.2	75.4	104.4
	South East	44.7	40.7	81.7
	South West	36.9	38.8	103.9
	Wales	30.9	25.1	63.2
	West Midlands	19.6	19.1	29.4
	Yorkshire and the Humber	26.1	34.3	75.6
	<b>Total</b>	<b>1,445.6</b>	<b>1,639.5</b>	<b>2,450.3</b>

Source: Olsberg•SPI/Nordicity estimates

Note:

Figures may not sum to totals due to rounding

**Table 81**

**Total economic impact of HETV content value chain, by UK nation and England's regions (includes direct, indirect and induced effects)**

		2017	2018	2019
Employment (FTEs)	East Midlands	375	303	487
	East of England	552	504	894
	Metro London	28,923	32,365	45,240
	Northern Ireland	2,012	1,252	727
	North East	241	178	291
	North West	2,283	2,589	5,565
	Scotland	1,825	1,591	2,228
	South East	1,158	988	1,921
	South West	982	963	2,422
	Wales	1,030	849	1,855
	West Midlands	663	647	944
	Yorkshire and the Humber	715	992	1,735
	<b>Total</b>		<b>40,760</b>	<b>43,220</b>
GVA (£m)	East Midlands	17.9	15.1	24.3
	East of England	27.2	26.2	47.8
	Metro London	1,621.3	1,851.0	2,639.2
	Northern Ireland	101.5	65.8	42.0
	North East	11.4	8.9	14.4
	North West	131.6	142.4	305.4
	Scotland	90.9	81.0	114.1
	South East	58.7	52.4	102.6
	South West	50.6	51.2	128.4
	Wales	58.4	47.7	108.7
	West Midlands	36.6	36.1	55.7
	Yorkshire and the Humber	36.9	53.8	91.6
	<b>Total</b>		<b>2,242.9</b>	<b>2,431.5</b>

Source: Olsberg•SPI/Nordicity estimates

Note:

Figures may not sum to totals due to rounding



### 10.3.2. Film

Film production is subject to more regional fluctuations than HETV, based on the year-to-year slate of film projects. Some UK nations or English regions can experience single-year spikes due to one significant film project or a small number of film projects.

Compared with HETV, film has also been more focused around Metro London, given the region's highly-developed base of specialist facilities and vendors. Nevertheless, significant impacts are made across the UK, with around £1.18 billion spent outside Metro London over 2017-2019. This represents around 19% of the total.

In 2019, this spend generated 37,685 FTE jobs in Metro London and 7,775 FTEs throughout the rest of the UK, including direct, indirect and induced effects. Taking into consideration the total impact of the film content value chain, including direct, indirect and induced effects, 49,845 FTE jobs were created in Metro London in 2019 and 19,085 throughout the rest of the UK.

In GVA terms, film spend generated £1.96 billion in GVA in Metro London in 2019 and £404.1 million throughout the rest of the UK, including direct, indirect and induced effects. Taking into consideration the total impact of the film content value chain, including direct, indirect and induced effects, £3.74 billion in GVA was generated in Metro London in 2019 and £1.24 billion throughout the rest of the UK.

Outside of Metro London, there were consistent levels of film production in Scotland, South East and Yorkshire as well as other locations.

**Table 82**  
**Total FTR production spend, by UK nation and England's regions (£m)**

		2017	2018	2019
Spend (£m)	East Midlands	7.6	5.8	0.0
	East of England	43.7	17.2	4.8
	Metro London	1,697.3	1,798.6	1,624.4
	Northern Ireland	6.4	4.9	4.7
	North East	34.9	16.1	12.7
	North West	22.4	10.8	25.0
	Scotland	100.6	45.1	60.4
	South East	188.2	114.9	166.1
	South West	61.2	4.0	46.6
	Wales	7.1	20.1	6.4
	West Midlands	0.8	0.0	25.1
	Yorkshire and the Humber	50.7	24.0	39.5
	<b>Total</b>		<b>2,220.9</b>	<b>2,061.3</b>
Share of total spend	East Midlands	0.3%	0.3%	0.0%
	East of England	2.0%	0.8%	0.2%
	Metro London	76.4%	87.3%	80.6%
	Northern Ireland	0.3%	0.2%	0.2%
	North East	1.6%	0.8%	0.6%
	North West	1.0%	0.5%	1.2%
	Scotland	4.5%	2.2%	3.0%
	South East	8.5%	5.6%	8.2%
	South West	2.8%	0.2%	2.3%
	Wales	0.3%	1.0%	0.3%
	West Midlands	<0.1%	0.0%	1.2%
	Yorkshire and the Humber	2.3%	1.2%	2.0%
	<b>Total</b>		<b>100%</b>	<b>100%</b>

Source: Olsberg•SPI/Nordicity estimates

Note:

Figures may not sum to totals due to rounding

**Table 83****Total economic impact of FTR production, by UK nation and England's regions  
(includes direct, indirect and induced effects)**

		2017	2018	2019
Employment (FTEs)	East Midlands	436	177	262
	East of England	793	352	410
	Metro London	41,635	40,846	37,685
	Northern Ireland	231	115	147
	North East	348	126	171
	North West	1,019	425	765
	Scotland	2,001	837	1,171
	South East	2,799	1,914	2,386
	South West	1,375	267	864
	Wales	353	369	240
	West Midlands	553	220	428
	Yorkshire and the Humber	677	371	932
	<b>Total</b>		<b>52,220</b>	<b>46,020</b>
GVA (£m)	East Midlands	21.7	9.3	13.6
	East of England	39.5	18.5	21.3
	Metro London	2,075.8	2,145.9	1,958.2
	Northern Ireland	11.5	6.0	7.6
	North East	17.3	6.6	8.9
	North West	50.8	22.3	39.7
	Scotland	100.0	44.1	61.0
	South East	139.5	100.5	123.9
	South West	68.5	14.0	44.9
	Wales	17.6	19.5	12.5
	West Midlands	27.6	11.5	22.2
	Yorkshire and the Humber	33.7	19.5	48.4
	<b>Total</b>		<b>2,603.6</b>	<b>2,417.8</b>

Source: Olsberg•SPI/Nordicity estimates

Note:

Figures may not sum to totals due to rounding

**Table 84**

**Total economic impact of FTR content value chain, by UK nation and England's regions (includes direct, indirect and induced effects)**

		2017	2018	2019
Employment (FTEs)	East Midlands	919	717	780
	East of England	1,421	958	1,044
	Metro London	53,087	52,555	49,845
	Northern Ireland	564	520	537
	North East	709	471	909
	North West	2,393	2,238	2,528
	Scotland	3,085	2,171	2,335
	South East	4,329	3,794	3,952
	South West	2,365	1,430	2,139
	Wales	897	1,016	879
	West Midlands	1,841	1,327	1,778
	Yorkshire and the Humber	1,389	1,264	2,204
	<b>Total</b>	<b>73,000</b>	<b>68,460</b>	<b>68,930</b>
GVA (£m)	East Midlands	44.7	38.3	42.7
	East of England	84.7	66.5	75.3
	Metro London	3,779.0	3,909.8	3,735.0
	Northern Ireland	28.1	27.5	29.2
	North East	34.7	24.5	60.8
	North West	153.1	167.6	182.6
	Scotland	164.9	130.6	137.5
	South East	246.0	240.9	241.8
	South West	127.4	81.8	122.5
	Wales	52.9	62.6	56.1
	West Midlands	144.5	86.2	148.0
	Yorkshire and the Humber	69.5	69.7	143.9
	<b>Total</b>	<b>4,929.6</b>	<b>4,906.0</b>	<b>4,975.5</b>

Source: Olsberg•SPI/Nordicity estimates

Note:

Figures may not sum to totals due to rounding

# THE RIPPLE EFFECT

Measuring the micro-economic impact of  
film and television production spending  
across business sectors



## 11.1. Overview

While this study identifies the macro-economic effects generated by the expenditure of film and high-end television (HETV) productions in the UK, research has also been undertaken into an additional and important element of impact created by this activity. This is the micro-economic effect that delivers value to many business sectors in the locality where the production expenditure takes place.

Film and HETV production are specialist manufacturing processes which require a wide variety of inputs. These include a large number of workers – spanning creative, technical, logistical and support roles – as well as equipment, facilities, infrastructure and services.

While some of these inputs will be sourced directly from the screen sector – ie from individuals or vendors who only work in film and television production – normally a larger proportion of expenditure is made in other areas of the economy. This is referred to as the ripple effect – ie the micro-economic impacts that each production generates for other business sectors.

To demonstrate this impact, forensic analysis of three production budgets was undertaken. For each project, production spend was assigned to the business sector into which the money is spent. The focus of the analysis was on below-the-line production expenditure.

The analysis also provides important insight into the regional impacts that are created by film and HETV production. Indeed, the three projects selected for this analysis were all made outside of Metro London: two were filmed predominantly in UK nations outside of England, and one was filmed in an English region. The projects were treated confidentially, and no identifying factors have been included.

The analysis found that the proportion of production costs for these three projects that was spent in the general economy was between 40% and 60% of the total. Importantly, significant amounts (depending on the size of the production) were spent in sectors which have been particularly affected by the COVID-19 pandemic, such as travel and transport, and hospitality and catering.

Although the proportions are lower, money is also spent in critical service areas such as safety and security, and health and medical. Subsequently, these areas have become far more important as the world recovers from the current pandemic and the proportion of budgets spent in those sectors increases.

## 11.2. Breadth of impact across business sectors

The project expenditure was analysed and categorised according to several business sectors that typically supply goods and services to film and HETV production.

Most above-the-line costs such as payments to leading actors, writers and producers were excluded as, in many cases, these could be large items that would skew the analysis as they are often paid to individuals in economic jurisdictions outside the areas being studied.

The categories of business sectors are listed here and described further below:

- Screen production-specific
- Business support
- Construction
- Digital services
- Real estate
- Travel and transport
- Hospitality and catering
- Finance and legal
- Fashion and beauty
- Music and performing arts
- Power and utilities
- Safety and security
- Training and education
- Health and medical
- Local labour miscellaneous

### 11.2.1. Screen production-specific

The largest proportion of production spend is on wages of crew and companies supplying services that exclusively work in the film and television sectors (ie screen production-specific). These suppliers do not participate in other sectors of the economy and therefore do not contribute to the ripple effect.

In other cases, technical skills could be and are redeployed into other business sectors; examples of this can be found in the category descriptions further below.

### 11.2.2. Business support

Like any economic activity, film and HETV production uses the services of the general business equipment and supplies sector in many ways. This could involve purchases of office equipment, printing and copying services. Producers also purchase and rent a large number of miscellaneous items such as storage containers and marquees, especially when a significant production goes on location, when producers will rely heavily on being able to access local supplies as they set up temporary bases.

### 11.2.3. Construction

Much of a production's construction expenses could be classified as screen production-specific; a film set is normally only of any use to a specific type of production. The construction department, however, will reach out to the wider construction sector to hire equipment and specialists, for example earth diggers and heavy lifting equipment; such costs have been allocated here.

### 11.2.4. Digital services

This sector is heavily dependent on screen production, and the bulk of such costs in most budgets will be allocated to the category specific to screen production. There is, however, some crossover of skills between this sector and the other key digital industries, in particular the video games sector, and the costs of such persons have been allocated to this category.

### 11.2.5. Real estate

The costs of dedicated filming space rental from major film and television studios have been included in the screen production-specific category but, when productions are on location, they may rent buildings that also serve other sectors of the economy.

### 11.2.6. Travel and transport

A key expense of production is the cost of bringing above- and below-the-line personnel into and around where the production is located. Furthermore, a moving unit requires considerable transport back up – whether that is by road, train or air. The spend is higher on location-based productions rather than largely studio-based shows.

### 11.2.7. Hospitality and catering

These costs relate to accommodating and feeding substantial numbers of talent and crew, especially when a production is using locations at a distance from where the workforce is permanently based. Consequently, the hotel and accommodation sector is an important supplier to productions, regardless of whether they are largely studio-based or predominantly moving between different locations.

Catering for the working unit is usually provided by mobile catering companies, but the quality and availability of restaurants are also important to those having travelled to the location of the production.



### 11.2.8. Finance and legal

Like any business sector, screen production has many requirements for legal expertise, with a plethora of standard and specialised contracts to be negotiated. The accounts department of a production also has a crucial role, especially as so many projects involve funding sources that require external audits.

### 11.2.9. Fashion and beauty

For contemporary productions, much of the on-screen costume requirement is simply purchased from high street shops, while period or futuristic shows on the other hand will require considerable work by skilled cutters, tailors and dressmakers.<sup>183</sup>

Equally, hair and make-up look to the general 'beauty' sector for both their products and skilled practitioners – wig makers are a good example of the screen production world interacting to mutual benefit with the broader fashion and beauty sector.

### 11.2.10. Music and performing arts

It is sometimes challenging to differentiate between these two sectors and screen production-specific. Almost all the creative roles are filled with people who have either moved in the past or continue to move between theatre, musicals and the visual arts. In the design area, for example, the 'concept' artists who bring the designer's work to life will also work in the exhibition field and in theatre. Actors move continuously between live theatre and screen. Producers are constantly looking to the live theatre scene for new talent, and writers often move between live theatre and screen.

Musicians and singers who work in orchestras and opera companies will often be found in recording studios providing musical background for screen productions.

### 11.2.11. Power and utilities

As with any major business sector, screen production is a considerable consumer of power and general utilities. While on location, production units will use generators to power their lighting rigs and location bases. However, the sector is increasingly looking to adapt to more environmentally responsible ways of consuming power and other utilities, and major financiers are constantly looking to mitigate their environmental impact.

### 11.2.12. Safety and security

Risk assessments for screen productions can be very specific, so specially trained health and safety advisors are common. Stunt work, for example, calls for close co-operation between the production, the stunt co-ordinator, and health and safety officers.

Security, particularly on location, can be co-ordinated by the production but will require considerable support from the local community, and close contact between the production and a local security operation is often a huge asset to both sides.

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<sup>183</sup>. Specific costume hire spend has been allocated to screen-production specific

### 11.2.13. Training and education

Many countries have adopted a variety of training initiatives, internships and apprenticeship schemes to enable pathways for diverse kinds of training across many disciplines.

### 11.2.14. Health and medical

This is becoming an even more crucial sector in the wake of the COVID-19 pandemic and has therefore gained far greater significance. Trained medical staff attend sets and construction sites, providing immediate health cover. Screen production also relies on the medical community in several ways, including the health checks that all key staff undergo – this has increased substantially because of pandemic issues and protocols. Special training of such staff has become necessary across the industry since COVID-19, with considerably increased costs in this category as a result.

### 11.2.15. Local labour miscellaneous

In each analysis there were some labour costs where it was not sufficiently clear to which expenditure category they belonged. These costs have therefore been allocated to a miscellaneous category.

## 11.3. Impacts – overall

The results show that film and HETV productions can have significant impacts on other sectors of the economy. This includes areas that have been particularly impacted during the pandemic, such as travel and hospitality. Furthermore, screen production relies on substantial numbers of freelance workers who have also experienced vulnerability and difficulty in recent times.

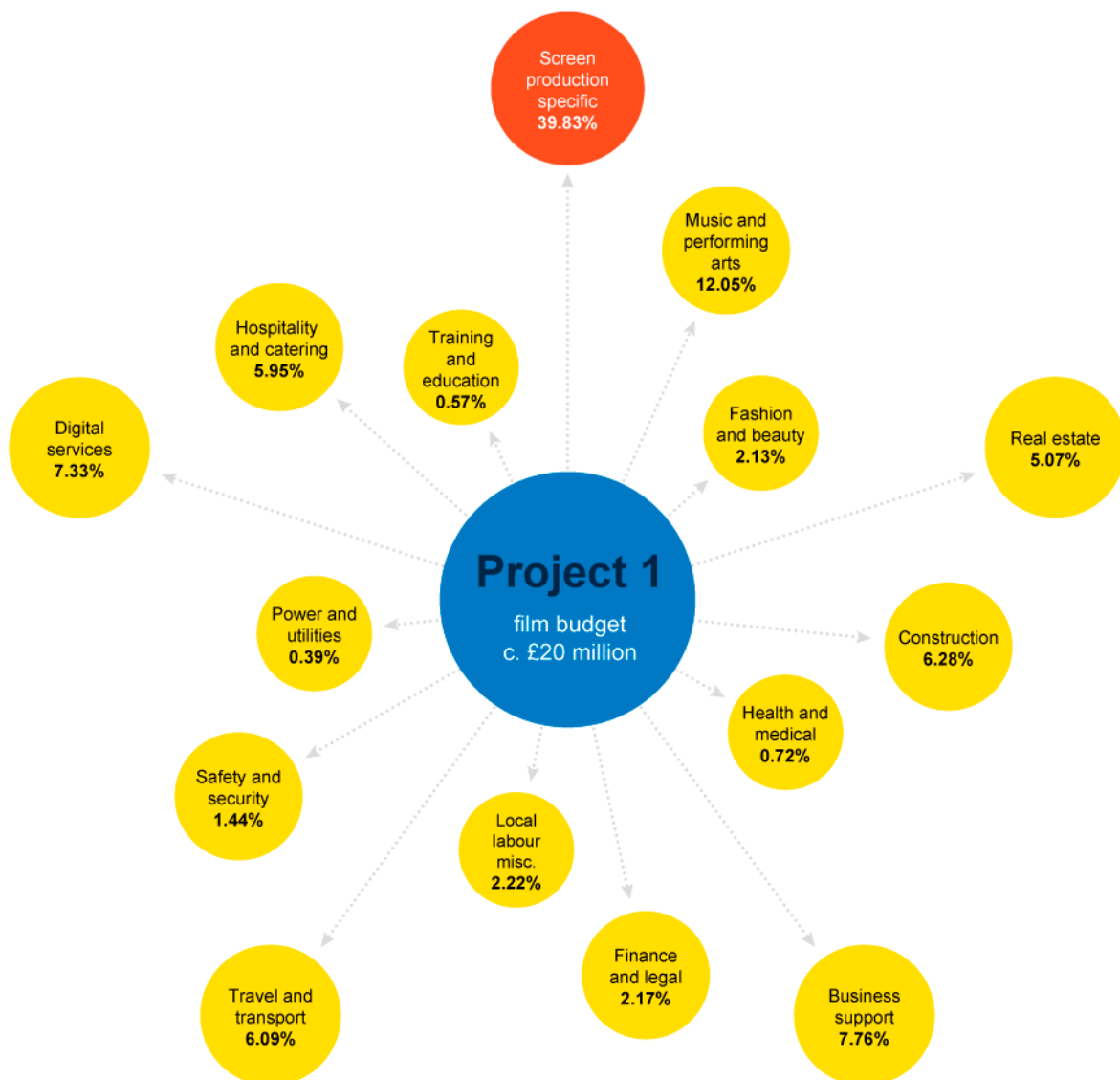
The following summarises the impacts for the three productions analysed for this study. Their producers have requested confidentiality and so the expenditure is presented in percentage terms and other information has been anonymised.

## 11.4. Project one

This is a UK independent feature film with a total budget under £20 million; filmed wholly in one of the English regions, it was produced by a company with headquarters locally. It made extensive use of locations in the area and also used a modest, converted studio as its base which was upgraded by this production and has subsequently been frequently used by other producers. In collaboration with the regional screen agency, substantial investment was made in training newer crew members who have subsequently continued careers in production.

The figure and table below represent the analysis performed for this feature.

**Figure 26**  
**Breakdown of project one spend by business area**



**Table 85**  
**Breakdown of project one spend by business area**

<b>Business area</b>	<b>Proportion of budget (%)</b>
Screen production-specific	39.83
Training and education	0.57
Digital services	7.33
Power and utilities	0.39
Business support	7.76
Real estate	5.07
Fashion and beauty	2.13
Hospitality and catering	5.95
Construction	6.28
Music and performing arts	12.05
Travel and transport	6.09
Safety and security	1.44
Finance and legal	2.17
Health and medical	0.72
Local labour misc.	2.22
<b>Total</b>	<b>100.00</b>

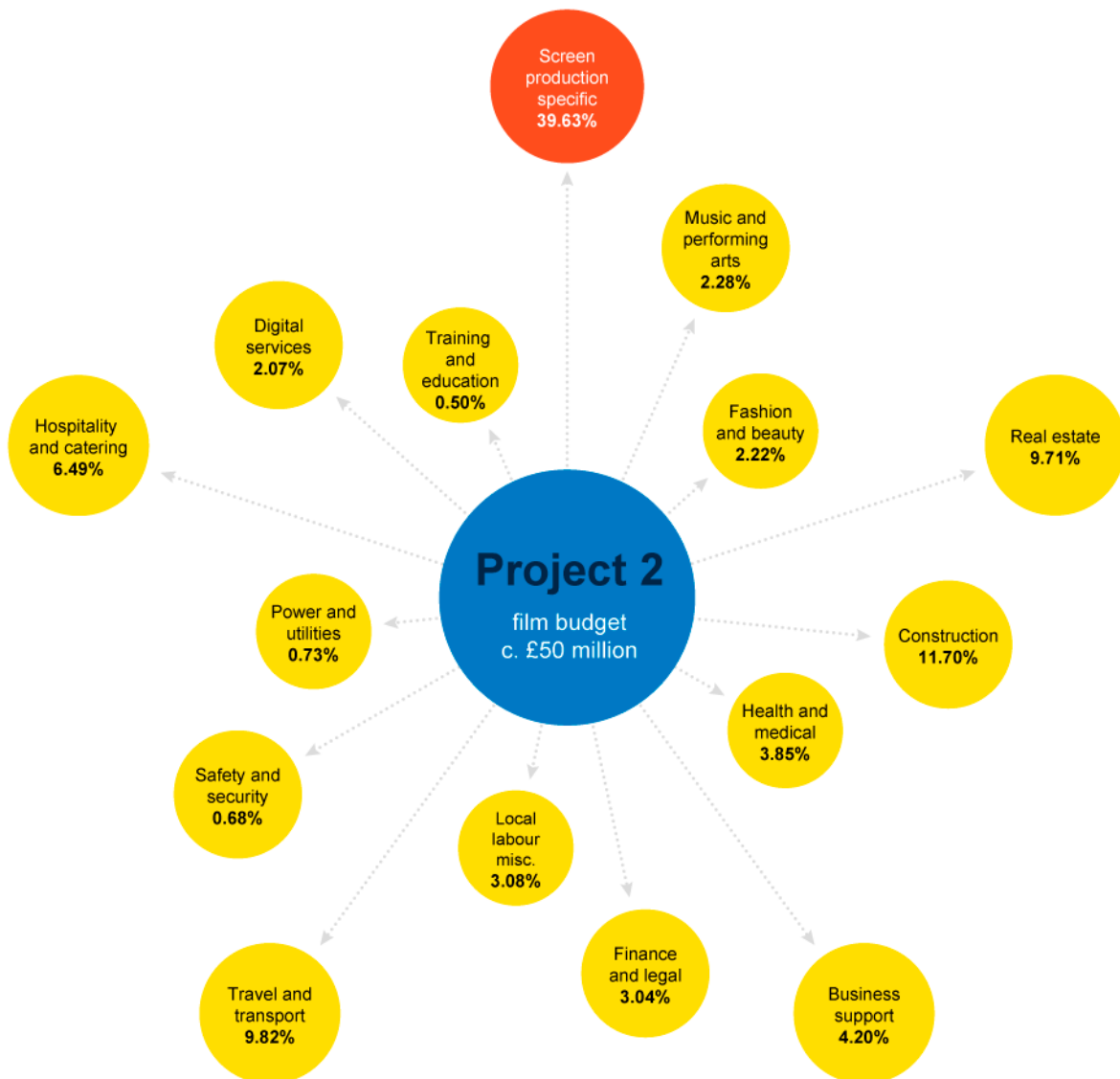
Note:  
 Figures may not sum to totals due to rounding

## 11.5. Project two

This project is a major international feature film with a total budget exceeding £50 million, primarily shot in many locations in one of the UK's nations. A particular legacy benefit of this production came from a professional development scheme aimed at experienced crew members to help them advance to the next level (head of department) within their specialism. The skills development programme was sponsored by the national screen agency. On this film, as a result of the scheme, an entire department team gained valuable experience and credibility on a major production which has expanded the nation's ability to accommodate more projects.

The figure and table below represent the analysis performed for this feature.

**Figure 27**  
**Breakdown of project two spend by business area**



**Table 86**  
**Breakdown of project two spend by business area**

<b>Business area</b>	<b>Proportion of budget (%)</b>
Screen production-specific	39.63
Training and education	0.50
Digital services	2.07
Power and utilities	0.73
Business support	4.20
Real estate	9.71
Fashion and beauty	2.22
Hospitality and catering	6.49
Construction	11.70
Music and performing arts	2.28
Travel and transport	9.82
Safety and security	0.68
Finance and legal	3.04
Health and medical	3.85
Local labour misc.	3.08
<b>Total</b>	<b>100.00</b>

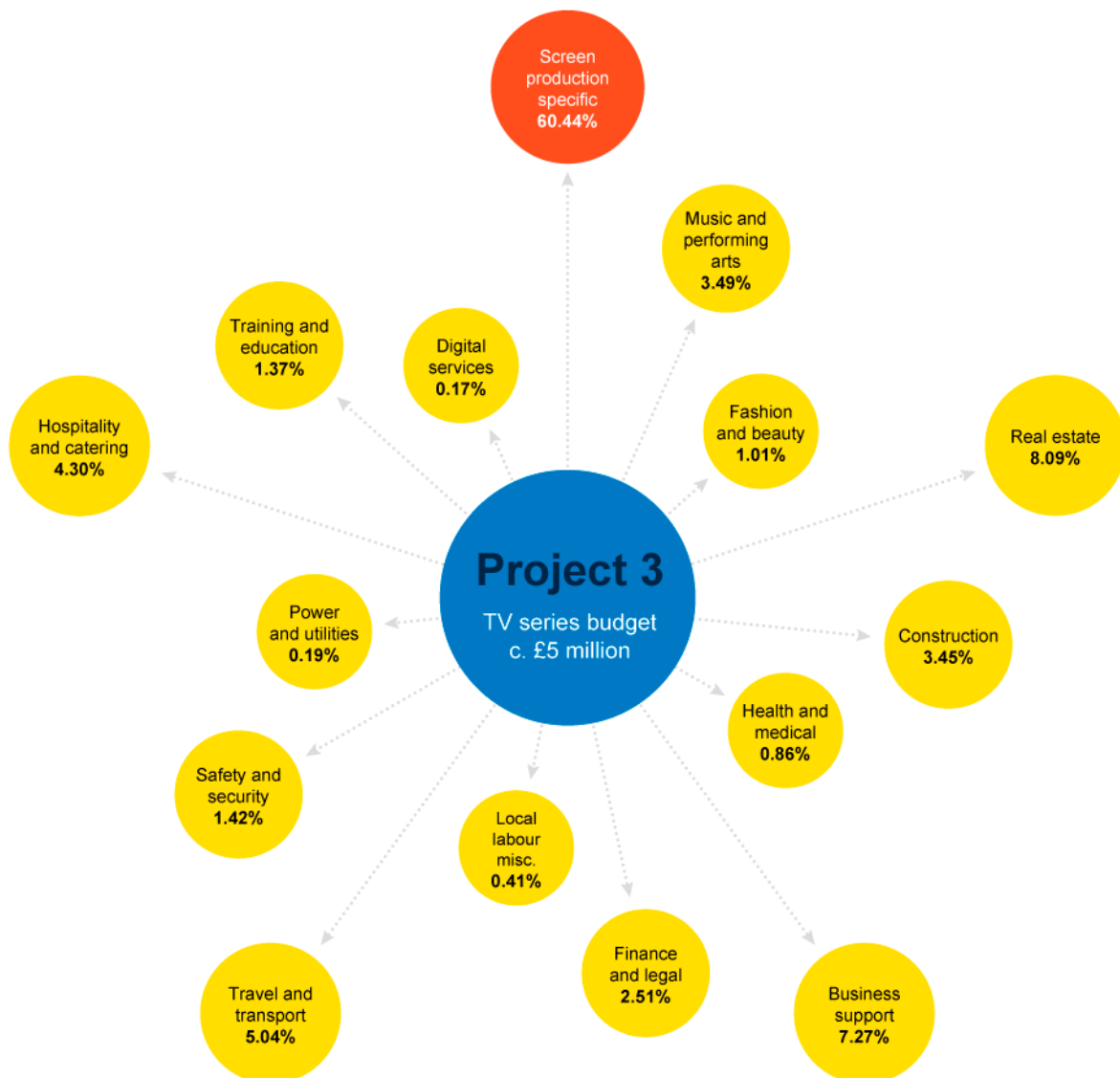
Note:  
 Figures may not sum to totals due to rounding

## 11.6. Project three

This is a modest UK television multi-part drama series, and this analysis covers one season which cost less than £5 million to produce. All seasons were shot in another of the UK's nations, heavily featuring its specific, recognisable location. A particular legacy benefit of this popular series is the impact its success has had on the independent production company, which is based in the region. The positive financial results of the programme have enabled the company to plan for a more sustainable future, giving it the resources to cashflow the tax relief and invest in subsequent projects.

The figure and table below represent the analysis performed for this feature.

**Figure 28**  
**Breakdown of project three spend by business area**



**Table 87**  
**Breakdown of project three spend by business area**

<b>Business area</b>	<b>Proportion of budget (%)</b>
Screen production-specific	60.44
Training and education	1.37
Digital services	0.17
Power and utilities	0.19
Business support	7.27
Real estate	8.09
Fashion and beauty	1.01
Hospitality and catering	4.30
Construction	3.45
Music and performing arts	3.49
Travel and transport	5.04
Safety and security	1.42
Finance and legal	2.51
Health and medical	0.86
Local labour misc.	0.41
<b>Total</b>	<b>100.00</b>

Note:  
 Figures may not sum to totals due to rounding



# COMPARISON OF GLOBAL PRODUCTION INCENTIVES

For film, television and video games

# 12

The UK operates in a highly competitive global film, television and video games production and development market in which many jurisdictions offer incentives. Typically, these incentive systems are aimed at attracting high-value international projects as well as stimulating the production of output from domestic producers.

The major production incentives worldwide (including those in the UK) are automatic, in that they provide finance to a producer based on the amount of eligible expenditure that has been undertaken according to the incentive legislation or guidelines.

This section provides a technical overview of a range of global incentives. It includes incentives in established European Union (EU) markets, including France and Germany, incentives with innovative approaches to attracting longer-term infrastructure investment (New Mexico, New Jersey), and incentives with particularly attractive headline incentive rates. Consideration is also given to incentives for video games development and VFX activity.

The analysis also notes where comparable incentives are relevant for foreign above-the-line talent, such as filmmakers and actors. Such provisions can make incentives particularly attractive to producers.

## 12.1. Context

While the UK is a significant screen production hub, it operates in an increasingly competitive global marketplace. The potential of screen production as an economic driver has become increasingly well recognised and, as a result, there has been an expansion in the number of automatic incentives in operation globally at country, state, and province level.<sup>184, 185</sup> This is outlined in the following figure.

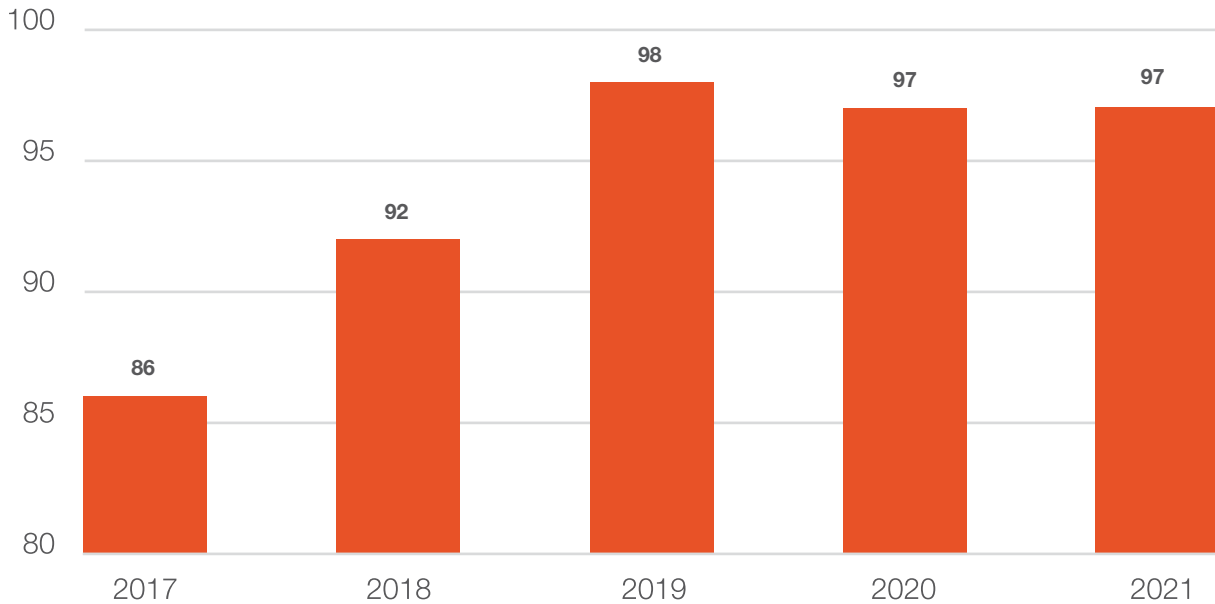
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**184.** *Global incentives Index*. Olsberg•SPI, published in World of Locations, July 2021. The Index can be accessed at: [https://static1.squarespace.com/static/5f7708077cf66e15c7de89ee/t/60e56888910595224bb11408/1625647246891/129-152\\_WOL+1+2021\\_tax+Incentives+table%5B2%5D.pdf](https://static1.squarespace.com/static/5f7708077cf66e15c7de89ee/t/60e56888910595224bb11408/1625647246891/129-152_WOL+1+2021_tax+Incentives+table%5B2%5D.pdf)

**185.** As outlined in the previous section, automatic incentives provide funding to a producer or developer based on the amount of eligible expenditure that has been undertaken, per the terms of the incentive legislation or guidelines

**Figure 29**  
**Number of automatic incentives worldwide, 2017-2021**

Number of incentives



Source: *Global Incentives Index*. Ibid

## 12.2. Cultural tests and the European Union's 80% limit

In EU Member States, production incentives are governed by State Aid rules. Therefore, access to such incentives often involves passing a cultural test because of State Aid requirements for the aid to be directed towards a cultural product. Subsidiarity principles mean these tests vary in each EU territory, but are broadly used to ensure that eligible productions fulfil a set of cultural criteria, in addition to any genre-based or spend-based requirements (for example, minimum spend thresholds in some Member States). The UK is no longer subject to State Aid rules (save for certain limited exceptions in Northern Ireland primarily related to goods).<sup>186</sup> The UK continues to use the sector-specific cultural tests – originally introduced when the UK was an EU Member State.

The UK's cultural tests, for example, contain four sections:

- Cultural content (film/programme/game being set in the UK or European Economic Area [EEA], or characters being British or EEA citizens or residents; British/EEA story or underlying material; British/EEA language); for animation programmes, children's television programmes and video games, setting and characters also includes 'undetermined setting' (for example, space and/or fantasy locations) and 'undetermined characters' – citizens or residents of the undetermined location
- Cultural contribution (demonstration of 'British creativity, British heritage and/or diversity')

<sup>186</sup>. Article 10 of the Northern Ireland Protocol, which covers the movement of goods and wholesale electricity markets but not services, states that certain EU State Aid rules apply where support measures affect goods trade between Northern Ireland and the EU. The relevant rules, listed in Annex 5 to the Protocol, include the Cinema Communication and the General Block Exemption Regulation (GBER)

- Cultural hubs (principal photography/development etc and/or VFX and/or SFX in the UK; music recording and/or audio post-production and/or picture post-production in the UK)
- Cultural practitioners (key personnel, cast and crew or development teams being British or EEA citizens or residents)<sup>187</sup>

Under EU State Aid rules, a single country’s incentive can only apply to a maximum of 80% of the total production budget. This 80% limit is also written into UK law and therefore continues to apply to the UK following its exit from the EU.

## 12.3. Best practice

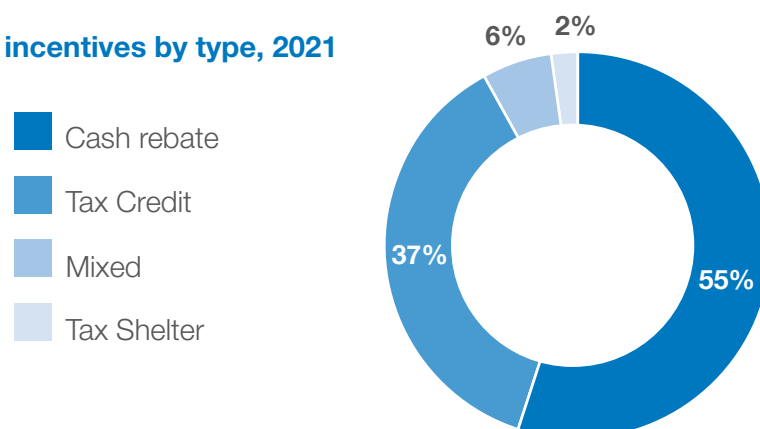
While producers or video games developers decide where to site productions globally based on a range of interrelated factors, ranging from creative requirements to workforce availability, automatic production incentives are a cornerstone consideration given their role in offsetting production costs and, therefore, risk.

The range of automatic production incentives operating internationally can be categorised within one of the following models:

- Cash rebates, which repay an amount of qualifying production costs to a production, based on a pre-determined formula, and funded directly from a state budget
- Refundable tax credits, which are set against the producer’s tax liabilities when a return is filed, either reducing the liabilities or, if there are none, being paid in cash, in full. These are referred to as tax ‘reliefs’ in the UK, and tax ‘offsets’ in Australia
- Transferable tax credits, which enable a producer to sell the tax credit received to eligible taxpayers, which they can use to reduce tax liability
- Tax shelters, which are designed to attract investment from high tax-paying firms and individuals, who are able to use the investment to reduce their tax liabilities

As outlined in Figure 30, the majority of systems in use globally are structured as cash rebates.

**Figure 30**  
Global production incentives by type, 2021



Source: Olsberg•SPI

Notes: ‘tax credit’ includes refundable and transferable tax credits; ‘mixed’ refers to jurisdictions which offer both a tax credit and a cash rebate, for example, or a similar combination

<sup>187</sup>The UK’s Cultural tests vary by sector. For more information, the cultural tests are accessible on the BFI’s website: <https://www.bfi.org.uk/apply-british-certification-tax-relief>

While an incentive's headline rate – ie the percentage that determines the incentive amount – is a critical consideration, it is not the only factor that influences how impactful a system is.

Given the risk involved in production and development, stability and reliability of an incentive is key. Uncapped systems, such as the UK's, offer particular certainty, since there is no risk of the incentive budget being fully exhausted by other projects (as can be the case with capped incentives). Stable incentives, such as the UK's, have been proven to function well over a number of years. This means that producers can accurately budget against the incentive and have confidence that there is unlikely to be any sudden change to the incentive system during production.

Another best practice element is that the administration of an incentive is clear and straightforward, and that payment is automatic, predictable and timely.<sup>188</sup>

## 12.4. Summary of comparable analysis

The following table provides headline information on incentives offered in key competitor markets to the UK. The information is accurate as of July 2021.

- The 'Type' is the category of incentive, as described in Section 12.3.
- The 'Value' is the percentage used to calculate the incentive
- 'Additional Value' refers to bonuses offered in some jurisdictions for meeting additional (non-mandatory) criteria
- The 'Project Cap' is, where relevant, the maximum incentive available to a single project
- The 'Annual Budget or Cap' is the total funding allocated to the incentive by government in a given year

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<sup>188</sup>. More detailed analysis of best practice in incentive design and administration can be found in *Best Practice in Screen Sector Development*, a study undertaken for the Association of Film Commissioners International (AFCI) by Olsberg•SPI and published in September 2019

**Table 88**  
**Summary of comparable film, television and video games incentive systems**

<b>Jurisdiction</b>	<b>United Kingdom</b>
<b>Name of incentive</b>	Creative Sector Tax Reliefs: Film Tax Relief (FTR), High-end Television Tax Relief (HETR), Animation Tax Relief (ATR), Children's Television Tax Relief (CTR) and Video Games Tax Relief (VGTR)
<b>Type</b>	Tax Credit
<b>Value</b>	25%
<b>Additional value</b>	-
<b>Project cap</b>	None
<b>Annual budget or cap</b>	None
<b>Application deadline</b>	None
<b>Eligible formats</b>	Film, high-end television (HETV), animation programmes, children's television programmes, video games
<b>Foreign above-the-line eligibility?</b>	Yes
<b>Applicable to VFX?</b>	Yes
<b>Applicable to VFX-only projects ?</b>	Yes
<b>Jurisdiction</b>	<b>Australia</b>
<b>Name of incentive</b>	Location Offset (previously known as the Refundable Film Tax Offset)
<b>Type</b>	Tax credit
<b>Value</b>	16.5%
<b>Additional value</b>	13.5% additional value available through the Location Incentive Program, with separate terms and conditions
<b>Project cap</b>	None
<b>Annual budget or cap</b>	None
<b>Application deadline</b>	Ongoing
<b>Eligible formats</b>	Feature film or film of like nature, for example, telemovie; miniseries of television drama; or television series (including documentary)
<b>Foreign above-the-line eligibility?</b>	Yes
<b>Applicable to VFX?</b>	Yes
<b>Applicable to VFX-only projects ?</b>	No
<b>Jurisdiction</b>	<b>Australia</b>
<b>Name of incentive</b>	Producer Offset
<b>Type</b>	Tax credit
<b>Value</b>	40% for features released theatrically; 30% for other productions
<b>Additional value</b>	None
<b>Project cap</b>	None
<b>Annual budget or cap</b>	None
<b>Application deadline</b>	Ongoing
<b>Eligible formats</b>	Feature film, documentaries, series
<b>Foreign above-the-line eligibility?</b>	Yes
<b>Applicable to VFX?</b>	Yes
<b>Applicable to VFX-only projects ?</b>	Yes

**Table 88**  
**Summary of comparable film, television and video games incentive systems**  
**(continued)**

Canada	
Jurisdiction	Canada
Name of incentive	Film or Video Production Services Tax Credit (PSTC)
Type	Refundable tax credit
Value	16% of qualified Canadian labour
Additional value	Stackable with Canada's provincial tax credits
Project cap	None
Annual budget or cap	None
Application deadline	Ongoing
Eligible formats	Linear audiovisual productions (for example, film, television series, documentaries)
Foreign above-the-line eligibility?	No
Applicable to VFX?	Yes
Applicable to VFX-only projects ?	Yes
Jurisdiction	Ontario
Name of incentive	Ontario Interactive Digital Media Tax Credit (OIDMTC)
Type	Tax credit
Value	35% - 40%
Additional value	-
Project cap	None
Annual budget or cap	None
Application deadline	Ongoing
Eligible formats	Video games
Foreign above-the-line eligibility?	N/A
Applicable to VFX?	N/A
Applicable to VFX-only projects ?	N/A
Jurisdiction	Quebec
Name of incentive	Quebec Production of Multimedia Titles Tax Credit (CTMM)
Type	Tax credit
Value	30% base rate
Additional value	Additional 7.5% if the title is available in French
Project cap	None
Annual budget or cap	None
Application deadline	Ongoing
Eligible formats	Video games
Foreign above-the-line eligibility?	N/A
Applicable to VFX?	N/A
Applicable to VFX-only projects ?	N/A

**Table 88**  
**Summary of comparable film, television and video games incentive systems**  
**(continued)**

Canada (continued)	
Jurisdiction	British Columbia
Name of incentive	The Interactive Digital Media Tax Credit (IDMTC)
Type	Tax credit
Value	17.5%
Additional value	-
Project cap	None
Annual budget or cap	None
Application deadline	Ongoing
Eligible formats	Video games
Foreign above-the-line eligibility?	N/A
Applicable to VFX?	N/A
Applicable to VFX-only projects ?	N/A
Jurisdiction	France
Name of incentive	Tax Rebate for International Productions (TRIP)
Type	Tax credit
Value	30%
Additional value	10% VFX uplift which applies to all French spend. Must be a live-action film and include a substantial amount of digital visual effects work in France
Project cap	€30 million
Annual budget or cap	None
Application deadline	No application deadline
Eligible formats	Live action production, animation production
Foreign above-the-line eligibility?	Wages paid to French or EU writers and actors and salaries paid to French or EU directors and production staff
Applicable to VFX?	Yes
Applicable to VFX-only projects ?	Yes
Jurisdiction	France
Name of incentive	Tax Credit for Video Games (CIJV)
Type	Tax credit
Value	30%
Additional value	-
Project cap	A maximum annual threshold of €6 million per company
Annual budget or cap	None
Application deadline	Ongoing
Eligible formats	Video games
Foreign above-the-line eligibility?	N/A
Applicable to VFX?	N/A
Applicable to VFX-only projects ?	N/A



**Table 88**  
**Summary of comparable film, television and video games incentive systems**  
**(continued)**

<b>Jurisdiction</b>	<b>Germany</b>
<b>Name of incentive</b>	German Federal Film Fund (DFFF)
<b>Type</b>	Rebate
<b>Value</b>	DFFF I: 20% DFFF II: 25%
<b>Additional value</b>	DFFF I is worth 25% for projects with German production costs of more than €8 million
<b>Project cap</b>	DFFF I: €4 million DFFF II: €25 million
<b>Annual budget or cap</b>	€120 million
<b>Application deadline</b>	DFFF I and II: no later than six weeks before the start of filming
<b>Eligible formats</b>	DFFF I: Film, documentaries DFFF II: Film
<b>Foreign above-the-line eligibility?</b>	Yes
<b>Applicable to VFX?</b>	Yes (for virtually animated components, German production costs of at least €2 million)
<b>Applicable to VFX-only projects ?</b>	Yes
<b>Jurisdiction</b>	<b>Germany</b>
<b>Name of incentive</b>	German Motion Picture Fund (GMPF)
<b>Type</b>	Rebate
<b>Value</b>	Series: 20% on German production costs Film: 20% on German production costs
<b>Additional value</b>	-
<b>Project cap</b>	€2.5 million per series; or €4 million for series with German costs in excess of €20 million For series with German costs of at least €24 million and which score 70 points or more in the cultural test, the per-project cap is: €6 million if German production costs are less than €32 million; €8 million if German production costs are less than €40 million; or €10 million if German production costs exceed €40 million
<b>Annual budget or cap</b>	€50 million for 2021
<b>Application deadline</b>	Six weeks before the start of filming
<b>Eligible formats</b>	Television series, film (television or VoD, not for cinema release)
<b>Foreign above-the-line eligibility?</b>	Wages, salaries and fees are recognised as German production costs, provided that they are subject to unrestricted or restricted tax liability in Germany
<b>Applicable to VFX?</b>	Yes
<b>Applicable to VFX-only projects ?</b>	Yes
<b>Jurisdiction</b>	<b>Greece</b>
<b>Name of incentive</b>	Greek Cash Rebate
<b>Type</b>	Cash rebate
<b>Value</b>	40%
<b>Additional value</b>	-
<b>Project cap</b>	None
<b>Annual budget or cap</b>	€75 million available for the period 2018-2022
<b>Application deadline</b>	None
<b>Eligible formats</b>	Feature films, documentaries, TV drama series, animated films, digital games
<b>Foreign above-the-line eligibility?</b>	Yes
<b>Applicable to VFX?</b>	Yes
<b>Applicable to VFX-only projects ?</b>	Yes

**Table 88**  
**Summary of comparable film, television and video games incentive systems**  
**(continued)**

Jurisdiction	Hungary
Name of incentive	Hungarian Tax Rebate for Film Productions
Type	Rebate
Value	30%
Additional value	7.5% non-Hungarian spend
Project cap	N/A
Annual budget or cap	HUF33 billion
Application deadline	Registration and cultural test: 40-50 days before filming Subsidy request: 30 days before filming
Eligible formats	Films of all genres made for cinema release; feature films, series, documentaries and animations made for television or other distribution platforms
Foreign above-the-line eligibility?	Yes (wages, above- and below-the-line, are eligible)
Applicable to VFX?	Yes
Applicable to VFX-only projects ?	Yes
Jurisdiction	New Zealand
Name of incentive	New Zealand Screen Production Grant
Type	Cash rebate
Value	The baseline International Grant is worth 20%. For PDV productions, the grant is worth 20% up to NZ\$25 million in qualifying expenditure, thereafter 18%
Additional value	Live action productions that are invited to apply for a 5% uplift in addition to the International Grant will receive a total International Grant worth 25% of qualifying expenditure. Productions must offer significant economic benefits to New Zealand. The applicant must have previously incurred qualifying expenditure of at least NZ\$100 million in the five years prior to the date, and the production must have qualifying expenditure of at least NZ\$30 million
Project cap	None
Annual budget or cap	None
Application deadline	Ongoing
Eligible formats	Feature film, single-episode programmes (ie telefeature or feature not primarily intended for exhibition to the public in cinemas) including drama, documentary, factual, reality, children's and animation; series or season of a series, including drama, documentary, factual, reality, children's and animation. PDV productions must also be an eligible format
Foreign above-the-line eligibility?	Up to 20% of total qualifying expenditure
Applicable to VFX?	Yes
Applicable to VFX-only projects ?	Yes

**Table 88**  
**Summary of comparable film, television and video games incentive systems**  
**(continued)**

<b>Jurisdiction</b>	<b>Republic of Ireland</b>
<b>Name of incentive</b>	Section 481
<b>Type</b>	Tax credit
<b>Value</b>	32%
<b>Additional value</b>	5% Regional Uplift. Projects substantially produced in the regions (outside Dublin/Wicklow and Cork City and County) benefit from or up to 5% uplift subject to specific training related requirements. The 5% uplift applies in 2020 and 2021, 3% in 2022 and 2% in 2023
<b>Project cap</b>	The maximum qualifying expenditure per project is €70 million
<b>Annual budget or cap</b>	None
<b>Application deadline</b>	N/A
<b>Eligible formats</b>	Feature film, television drama (singles or series), animation (excluding computer games) and creative documentaries
<b>Foreign above-the-line eligibility?</b>	Yes
<b>Applicable to VFX?</b>	Yes
<b>Applicable to VFX-only projects ?</b>	Yes
<b>Jurisdiction</b>	<b>Spain</b>
<b>Name of incentive</b>	Rebates for Investments in Film and Television Series
<b>Type</b>	Rebate
<b>Value</b>	30% for the first €1 million of eligible expenditure and 25% for the remaining eligible expenditure
<b>Additional value</b>	-
<b>Project cap</b>	€10 million
<b>Annual budget or cap</b>	None
<b>Application deadline</b>	The refund must be applied for during the month of July of the year after the end of filming
<b>Eligible formats</b>	Beneficiaries: Spanish companies which are registered in the Film and Audiovisual Arts Institute's register of audiovisual producers
<b>Foreign above-the-line eligibility?</b>	Creative personnel registered to pay tax in Spain or in the European Economic Area Expenses are limited to €100,000 per person
<b>Applicable to VFX?</b>	Yes
<b>Applicable to VFX-only projects ?</b>	Yes

**Table 88**  
**Summary of comparable film, television and video games incentive systems**  
**(continued)**

United States	
Jurisdiction	California
Name of incentive	Film & Television Tax Credit Program 3.0
Type	Tax credit
Value	25% non-transferable tax credit for relocating TV series 25% transferable tax credit for independent films
Additional value	5% visual effects uplift for eligible television projects (except relocating TV series) and feature films 5% out of zone uplift for eligible television projects (except relocating TV series) and feature films that film outside the 'Los Angeles zone' 5% local hire labour uplift for eligible independent films and relocating TV series 10% local hire labour uplift for eligible non-independent production
Project cap	The tax credits apply to the first \$100 million of qualified expenditures for non-independent films and TV series. For independent films, the credits apply to the first \$10 million of qualified expenditures
Annual budget or cap	\$330 million
Application deadline	Multiple application periods per year
Eligible formats	TV series, pilots, miniseries Non-independent films Relocating TV series Independent films
Foreign above-the-line eligibility?	No
Applicable to VFX?	Yes
Applicable to VFX-only projects ?	No
Jurisdiction	Georgia
Name of incentive	Entertainment Industry Tax Credit
Type	Transferable tax credit
Value	20% base
Additional value	A 10% Georgia Entertainment Promotion (GEP) uplift can be earned by including an embedded Georgia logo on approved projects and a link to ExploreGeorgia.org/Film on the project's landing page
Project cap	None
Annual budget or cap	None
Application deadline	Ongoing
Eligible formats	Eligible projects include feature films; television films, pilots or series; televised specials; televised commercials; and music videos that are distributed outside of Georgia
Foreign above-the-line eligibility?	Yes
Applicable to VFX?	Yes
Applicable to VFX-only projects ?	No (must be shot in Georgia to qualify for VFX)

**Table 88**  
**Summary of comparable film, television and video games incentive systems**  
**(continued)**

United States (continued)	
Jurisdiction	Louisiana
Name of incentive	Digital Interactive Media and Software Program
Type	Tax credit
Value	18%
Additional value	Additional 7% for qualified payroll for in-state labour
Project cap	-
Annual budget or cap	-
Application deadline	Ongoing
Eligible formats	Video games
Foreign above-the-line eligibility?	N/A
Applicable to VFX?	N/A
Applicable to VFX-only projects ?	N/A
Jurisdiction	New Jersey
Name of incentive	New Jersey Film & Digital Media Tax Credit Program
Type	Tax credit
Value	30%
Additional value	Rate is 35% in certain counties. Additional 2% if diversity plan is submitted and achieved
Project cap	-
Annual budget or cap	\$100 million
Application deadline	Rolling deadline – first come, first served
Eligible formats	Feature film Television series Television show of 22 minutes or more in length, intended for a national audience Television series or a television show of 22 minutes or more in length intended for a national or regional audience, including, but not limited to, a game show, award show, or other gala event filmed and produced at a non-profit arts and cultural venue receiving State funding
Foreign above-the-line eligibility?	Excluded are payments in excess of \$500,000 made to highly compensated individuals for costs of a story, script, or scenario used in the production of a film; and for wages or salaries or other compensation for writers, directors, including music directors, producers, and performers
Applicable to VFX?	Yes
Applicable to VFX-only projects ?	Yes

**Table 88**  
**Summary of comparable film, television and video games incentive systems**  
**(continued)**

United States (continued)	
Jurisdiction	New Mexico
Name of incentive	New Mexico Film and Television Tax Credit
Type	Tax credit
Value	25% 15% for non-resident industry crew wages when certain criteria are met
Additional value	5% for television series productions 5% if certain criteria are met regarding the use of qualified production facilities 5% for production expenditures in the state at least 96km outside of the exterior boundaries of Bernalillo and Santa Fe counties
Project cap	None
Annual budget or cap	\$110 million per year with \$100 million backlog cap. New Mexico Film Partners exempt from cap
Application deadline	The film production company must apply for the credit within one year of the date of the last direct production expenditure in New Mexico or the last post-production expenditures in New Mexico
Eligible formats	Projects must be film or commercial audiovisual products: Feature films, Independent films, Television (MOW, pilots, series, reality), certain commercials and EPKs, Documentaries, Student films, Short films, Animation, Video games, Webisodes, Music videos, Infomercials, Content-based mobile apps, VR, Multi-media, New media, Standalone post-production
Foreign above-the-line eligibility?	No (New Mexico residents only)
Applicable to VFX?	Yes
Applicable to VFX-only projects ?	Yes
Jurisdiction	Pennsylvania
Name of incentive	Video Game Production Tax Credit (VGPTC)
Type	Tax credit
Value	25% for first four years 10% each subsequent year
Additional value	-
Project cap	There is a \$1 million cap on the aggregate amount of compensation paid to individuals or entities representing an individual for services provided in the production of a video game
Annual budget or cap	\$1 million
Application deadline	Ongoing
Eligible formats	Video games
Foreign above-the-line eligibility?	N/A
Applicable to VFX?	N/A
Applicable to VFX-only projects ?	N/A

## 12.5. Summary of the UK's Creative Sector Tax Reliefs

The UK's Creative Sector Tax Reliefs are split into eight separate incentive systems. The five incentives evaluated as part of this research are for film, HETV, children's television programmes, animation programmes, and video games.<sup>189</sup>

The rules for each system vary, but across each incentive a tax relief rate of 25% is offered. For example, HETR has a unique requirement for productions to spend at least £1 million per hour of slot length in order to be eligible.

## 12.6. Australia

Australia has a range of incentives administered at a federal and state level. The two major incentives for international productions are the automatic Location Offset (previously the Refundable Film Tax Offset) and the Location Incentive.

The Location Offset is worth 16.5% of eligible expenditure, and the Location Incentive is worth 13.5%. The two incentives can be used in conjunction with each other, resulting in an incentive worth 30% of eligible expenditure in Australia.

Whereas the Location Offset is an automatic incentive much like the UK's – it is a refundable tax rebate, and there is no annual limit on the amount of incentives which can be given – the Location Incentive is a merit-based cash grant system, which has stricter requirements and a finite budget. In July 2020, the Location Incentive budget was topped up by AU\$400 million over seven years by the Federal Government (ie as a set amount, not annually recurring).

The advantage of the Australian system is that effectively all productions can access the Location Offset but are encouraged, using the additional Location Incentive, to meet additional, strategic criteria. To be eligible for the Location Incentive, productions must be eligible for the Location Offset and, in addition, must:

- Utilise the services of one or more Australian post, sound, music or visual effects provider
- Secure support from relevant state or territory governments
- Meet or exceed the expenditure threshold, which is AU\$15 million of qualifying Australian production expenditure (QAPE). A television series must also have a minimum average QAPE of AU\$1 million per hour

For post-production, digital, and visual effects (PDV) work in Australia, productions can access the Offset: a refundable tax credit worth 30% of qualifying expenditure in those areas. The PDV incentive can be combined with state and territory government incentives, and in recent years New South Wales, South Australia, Victoria and Queensland have launched 10% uplifts on eligible in-state PDV expenditure. In June 2021, Queensland committed an additional AU\$10 million over two years towards the PDV incentive, increasing the rate to 15%.

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<sup>189</sup>. The other reliefs are for theatrical productions, orchestral concerts and museum or gallery exhibitions. Accessible at: <https://www.gov.uk/guidance/corporation-tax-creative-industry-tax-reliefs>

Australia also offers the Producer Offset for domestic productions with significant Australian content. It is structured as a tax credit, worth 40% for theatrically released feature films, and, since 1 July 2021, worth 30% for all other eligible formats (previously, it was worth 20% for this category).

Currently Australia does not offer an incentive for video games. However, in May 2021 the Australian Government committed to a 30% refundable tax offset in the 2021-22 Federal budget. Available from 1 July 2022, the offset will be for eligible businesses that spend a minimum of AU\$500,000 on qualifying Australian games expenditure.<sup>190</sup>

## 12.7. Canada

Canada offers a range of automatic incentives, administered at both federal and provincial levels (provinces offering incentives are Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Nova Scotia, Ontario, Quebec and Yukon). Individually, these incentives can appear relatively small in terms of headline percentage, but productions may 'stack' provincial and federal incentives – making Canada's incentives highly competitive globally.

Many of Canada's incentives are labour-based, meaning the only costs eligible for the incentive are wages (and often only resident wages). Other production costs, such as studio and equipment rentals, are not eligible for the incentive. (However, the provincial-level incentives available to location production in Ontario and Quebec and certain other provinces are based on total in-province expenditures, ie payments to resident labour and in-province purchases of services and supplies.) Partly as a result of this, Canada is a significant location for post-production work, where wages are a higher proportion of costs than during principal photography.

Canada's federal incentive system, the Film or Video Production Services Tax Credit (which is labour-based) is worth 16% of qualified Canadian labour expenditure. Productions accessing this incentive will nearly always access one of Canada's provincial incentives.

Canada is one of the largest video games development and production hubs in the world, with the Canadian video games sector generating approximately CA\$2.7 billion in revenue in 2019, an increase of 15% on 2017.<sup>191</sup> This is underpinned by a strong offering of provincial tax credits and federal research and development (R&D) support.

Provincial video games incentives are offered in British Columbia, Manitoba, Ontario, Quebec, Nova Scotia, Prince Edward Island and Newfoundland and Labrador. Over 80% of video games companies in Canada are based in British Columbia, Ontario and Quebec.

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<sup>190</sup>. *Australia's Digital Economy: Investment Incentives*. Australian Government, 6 May 2021. Accessible at: <https://digitaleconomy.pmc.gov.au/fact-sheets/investment-incentives>

<sup>191</sup>. *The Canadian Video Game Industry 2019*. Entertainment Software Association of Canada. Accessible at: [https://theesa.ca/wp-content/uploads/2019/11/CanadianVideoGameSector2019\\_EN.pdf](https://theesa.ca/wp-content/uploads/2019/11/CanadianVideoGameSector2019_EN.pdf)



### 12.7.1. Ontario

The Ontario Interactive Digital Media Tax Credit (OIDMTC) is a refundable tax credit of up to 40% for eligible labour and marketing expenses on digital video games. The 40% rate is available for corporations that develop and market their own products, while the 35% rate is for products developed under a fee-for-service arrangement, as well as qualifying digital game corporations and specialised digital game corporations.

### 12.7.2. Quebec

The Quebec Production of Multimedia Titles Tax Credit (CTMM) offers a refundable tax credit of up to 37.5% on qualifying expenditure, including salaries and wages. With a base rate of 30% for multimedia titles (which includes video games) intended for commercial markets, a 7.5% uplift is available if the title is available in French.

### 12.7.3. British Columbia

The Interactive Digital Media Tax Credit (IDMTC) in British Columbia offers a tax credit of 17.5% to eligible registered corporations that develop interactive digital media products, including video games, in British Columbia. The credit is calculated as 17.5% of eligible salary and wages incurred in the tax year and applies to projects developed after 31 August 2010 and before 1 September 2023. Corporations must have a minimum of CA\$100,000 of eligible salary and wages for the tax year or, if the corporation's principal business is not developing digital media projects, the corporation must demonstrate a minimum of CA\$2 million in eligible salary and wages each tax year.

## 12.8. France

In France, the standard incentive rate for the Tax Rebate for International Productions (TRIP) is 30%. However, in June 2020 a VFX uplift was introduced which allows live-action film and television productions (not VFX-only production) which incur €2 million or more in post-production/VFX expenses within France to receive a 40% incentive rate. This 40% rate applies to all eligible spend in France, not just the post-production/VFX part of the expenditure.

Video games production in France is supported by the Tax Credit for Video Games (CIJV), a 30% incentive scheme for video games development companies located in France. To be eligible, the video game must have a development cost of at least €100,000 and be made primarily by designers and staff who are French nationals or EU/EEA nationals. There is a maximum threshold of €6 million per company per year, and a maximum threshold of €2 million for European subcontracting expenses per year. In 2019, the CIJV supported 200 projects across 100 companies with €53 million in funding.<sup>192</sup>

In addition to the CIJV, France's Centre national du cinéma et de l'image animée (CNC) runs a selective support fund for video games (FAJV), co-funded by the French Ministry for Industry, the Economy and the Digital Sector. The FAJV aims to support development companies that are in the video games prototype or production phase.

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<sup>192</sup>. *Video games tax credit (CIJV)*. Ministry of the Economy, Finance and Recovery. Accessible at: <https://www.entreprises.gouv.fr/en/digital/digital-policy/why-france>

## 12.9. Germany

Germany has three incentives for film and television productions at a federal level: Deutschen Filmförderfonds I (DFFF I); Deutschen Filmförderfonds II (DFFF II); and the German Motion Picture Fund (GMPF).

The DFFF incentives are administered by the German Federal Film Board (FFA), an agency which is primarily funded by a levy on cinema operators, broadcasters, and other parts of the audiovisual sector. As a result, the DFFF incentives are aimed at feature film productions intended for cinema release in Germany.

The incentives are split into two strands for national and international productions. The DFFF I is aimed at German 100% national productions, including German co-productions. The DFFF II is for international service productions in Germany.

The GMPF is funded and administered by the Government Commissioner for Culture and the Media. The GMPF supports the production of high-end television and VoD series as well as films. The funded film or series must be released on German television or by video-on-demand services accessible in Germany.

Germany also has a network of regional film funds, which generally support projects selectively or as a co-production partner, but which offer some automatic incentives for international productions (for example, FFF Bayern's Line Producer incentive system).

## 12.10. Greece

From September 2018 until July 2020, the legislation for Greece's incentive specified a cash rebate of 35% on the eligible expenses incurred. Updated legislation in 2020 raised the cash rebate to 40%, provides a more flexible floor for television series (€15,000-€25,000 per episode) and a new minimum for digital games (€30,000), and includes documentaries (€60,000) and short films with a minimum of €60,000.

The Greek cash rebate is administered by the National Centre of Audiovisual Media and Communication (EKOME).

## 12.11. Hungary

Hungary's incentive is a long-running and stable incentive that was one of the first to be introduced in Eastern Europe. The incentive rate has been increased twice over the last decade: in 2014, the maximum incentive was increased to 25%, and in 2018 the maximum incentive was increased again to the current level of 30%.

The incentive draws from a tax shelter system for Hungarian companies in which companies 'donate' to a film fund to offset their tax liabilities for a given year at a discounted rate. For producers, however, the incentive system operates effectively like a rebate.

## 12.12. New Zealand

The New Zealand Government introduced the New Zealand Screen Production Grant (NZSPG) in 2014. The system enhances and combines the Large Budget Screen Production Grant scheme and the Screen Production Incentive Fund. There are two sets of criteria – the NZSPG Criteria for International Productions and the NZSPG Criteria for New Zealand Productions.

The purpose of the New Zealand Screen Production Grant (NZSPG) for International Productions is to incentivise the production of foreign and domestic large budget films, television and other format productions in New Zealand to provide economic and industry development benefits. The International Grant includes the Post, Digital and Visual Effects (PDV) Grant. The purpose of the PDV grant is to specifically foster capacity and new business development for large budget PDV productions in New Zealand.

In establishing the International Grant, the New Zealand Government recognised that large budget screen productions and PDV activity contribute to the country's economic development by providing valuable economic, employment and skills development opportunities for the New Zealand screen production industry. The objective of the International Grant is to ensure that New Zealand remains competitive in attracting large budget screen productions and PDV activity from offshore.

To be eligible to apply for the International Grant, applicants must register with the New Zealand Film Commission (NZFC) before the start of principal photography in New Zealand (for live action productions). Final applications must be submitted within six months after completion.

A discretionary element also applies to the incentive. It is expected that only experienced producers will apply for an International Grant. Applicants are warned that their applications must be prepared to a high standard and in accordance with both the letter and intent of the criteria. Applications that do not meet those standards or that technically meet the criteria but, in the NZSPG Panel's opinion, are structured in a way that is inconsistent with the purpose or intent of the criteria, can be rejected by the NZSPG Panel.

### 12.12.1. VFX eligible formats

To be eligible to apply for the PDV grant, applicants must register with the NZFC within 20 working days of a 'qualifying bid' being accepted.

However, flexibility is built into the system for the PDV incentive. If a PDV production does not initially meet the NZ\$500,000 spend threshold, an applicant may register after PDV activity has commenced if registration takes place within 20 working days of a qualifying bid being accepted by the applicant, taking the spend above the minimum expenditure threshold.

A PDV production must have eligible costs of NZ\$500,000 or more.

### 12.12.2. 5% uplift

In addition, certain live action productions may be invited to apply a 5% incentive uplift. This was created for screen productions which can raise New Zealand's profile internationally, attract high-value tourists and profile innovative and creative people and technologies. It is expected that productions that qualify for the 5% uplift will be well placed to market, promote and showcase New Zealand.

To receive initial certification of eligibility for a 5% uplift, an applicant must:

- Meet the qualifying New Zealand production expenditure (QNZPE) thresholds (for current and previous productions)
- Be invited in writing by the NZFC and the Ministry of Business, Innovation and Employment (MBIE) to apply
- Meet the requirements of the criteria (including a Significant Economic Benefits [SEB] Points Test)
- Provide value to New Zealand that the SEB Verification Panel considers meets or exceeds the value of the 5% uplift for which the company has applied

To be invited to apply for the 5% uplift, an applicant must meet or exceed two QNZPE thresholds: the current production must have QNZPE of at least NZ\$30 million; and the applicant must have incurred QNZPE of at least NZ\$100 million in the five years prior to the date of the applicant's invitation.

## 12.13. Republic of Ireland

The Republic of Ireland offers the Section 481 tax credit, which supports film and television, animation and creative documentary production in Ireland. The tax credit is based on the cost of all cast and crew working in Ireland, and all goods and services sourced in Ireland. This includes post-production and/or VFX. Projects must meet a Culture Test and Industry Development Test to qualify.

All applications for a Section 481 Certificate must include a Skills Development Plan designed to address skills needs. For all projects with eligible expenditure in excess of €2 million, a copy of the Skills Development Plan must also be submitted to Screen Ireland for approval, especially in relation to specific skills deficits and priority roles that have been identified in the Screen Skills Ireland annual Skills Needs Analysis report.

## 12.14. Spain

The incentive for international film and television productions in Spain is worth 30% on the first €1 million and 25% for the remainder of the eligible expenditure, with a maximum rebate of €10 million. The incentive covers feature length films, television series, animated films and documentaries.

The minimum spend is €1 million. For pre-production and post-production expenses for animation and visual effects, however, the minimum spend in Spain is €200,000.

The incentive is available to Spanish producers registered on the Ministry of Culture and Sport's Film Company Register who are managing a foreign production. They are thus service companies which take on an executive producer role and which carry out the procedures involved in applying for a tax rebate.

The incentives are compatible with different international, national and regional grants, as long as the total does not amount to more than 50% of the total production costs.

The Canary Islands incentive offers a 50% rebate for the first €1 million of expenditure and 45% for the rest of the expenditure. The amount (45%-50% of eligible expenditure) is deducted from the amount payable in corporate income tax in the tax period after the production is completed. If the tax payable is not high enough to cover the full amount of the deduction, the remaining amount can be deducted from corporate income tax.

## 12.15. United States

### 12.15.1. California

California has an incentive with three main strands: a non-transferable tax credit for relocating TV series; a transferable tax credit for independent films; and a non-transferable tax credit for feature film, new TV series, miniseries and pilots.

Since California is home to the world's largest producers, its incentive is oversubscribed despite the large budget allocation. Since its inception, various measures have been put in place to ensure the incentive is limited and effective, including a lottery system (where successful applications were chosen at random) which ran until 2015.

The state's Film & Television Tax Credit Program 3.0 has run since 1 July 2020 and will run until 30 June 2025 with an annual budget of \$330 million.

The different strands of the incentive are each given separate budget allocations:

- 40% for television projects: new and recurring television series, pilots, miniseries
- 35% for feature films
- 17% for relocating television series
- 8% for independent films

On 21 July 2021, the incentive was expanded by \$330 million. The expansion comprises a \$180 million increase over two years, and \$150 million towards the construction of soundstages in the state.

Over the 2021/22 and 2022/23 fiscal years, an additional \$75 million will be allocated to recurring television series and an additional \$15 million will be allocated to television series that relocate to California each year.<sup>193</sup>

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<sup>193</sup>. *Senate Bill No. 144*. Legislative Counsel's Digest, 21 July 2021. Accessible at: [https://leginfo.legislature.ca.gov/faces/billStatusClient.xhtml?bill\\_id=202120220SB144](https://leginfo.legislature.ca.gov/faces/billStatusClient.xhtml?bill_id=202120220SB144)

## 12.15.2. Georgia

The Entertainment Industry Investment Act in Georgia provides a 20% tax credit for companies that spend \$500,000 or more on production and post-production in Georgia, either in a single production or on multiple projects. The tax credit can be transferred or sold if the production company has little or no tax liability in Georgia. An additional 10% tax credit is provided if the finished project includes a promotional logo provided by the state.

While both resident and non-resident workers' payrolls qualify for the tax credit, only expenditure in Georgia qualifies. Development costs, promotion, marketing, story rights and most fees do not qualify. There is a salary cap of \$500,000 per person, per production, when the employee is paid by salary.

The incentive has helped attract a large volume of production to Georgia. During the 2019 financial year – 1 July 2018 to 30 June 2019 – 399 productions filmed in the state, resulting in a record \$2.9 billion invested, according to the Georgia Department of Economic Development (GDEcD). They supported 3,040 motion picture and television industry businesses and delivered \$9.2 billion in total wages.<sup>194</sup>

## 12.15.3. Louisiana

The Office of Entertainment Industry Development in Louisiana runs the Digital Interactive Media and Software Program. The tax credit offers up to 25% for eligible applicants: 18% for qualified production expenditure paid to a Louisiana vendor and an additional 7% for qualified payroll for in-state labour. There is no minimum spend requirement or expenditure cap on projects applying for the scheme. Applicants have the choice of applying the tax credit to state income tax liability, or they can opt for a rebate worth 85% of the original value.

## 12.15.4. New Jersey

Qualified production companies can receive a transferable tax credit equal to 30% – or 35% in certain New Jersey counties – of qualified production expenses, provided the production company meets certain requirements.

These include a stipulation that a production company must incur at least 60% of total film production expenses in-state (exclusive of post-production costs) or incur more than \$1 million in qualified production expenses.

The uplift of 5% applies for expenses incurred for services performed and tangible personal property purchased through vendors whose primary place of business is located in Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer or Salem County.

Production companies can receive an additional credit equal to 2% of the qualified film production expenses, provided that the application is accompanied by a diversity plan which has to be approved, and the New Jersey Economic Development Authority has verified that the applicant has met or made good faith efforts in achieving the goals stated within the diversity plan.

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<sup>194</sup>. *Film Productions Queuing Up in Georgia*. Georgia.org, 20 July 2020. Accessible at: <https://www.georgia.org/newsroom/blogs/film-productions-queuing-georgia>

Reality television shows qualify for tax credits only if the production company producing the show has owned or leased a production facility of at least 20,000 ft<sup>2</sup> for a minimum of 24 months, and has invested at least \$3 million in the facility, which must be located in a designated urban enterprise zone.

A company's eligible New Jersey production costs, and in some cases total production costs, must be certified by a New Jersey licensed certified public accountant (CPA). Digital media projects can receive a 20% – 25% tax credit and have different requirements.

The programme has an annual cap of \$100 million per fiscal year (1 July to 30 June) until 30 June 2028. Applications are considered on a first-come, first-served basis.

### 12.15.5. New Mexico

A tax incentive for film in New Mexico was introduced in 2002 at a rate of 15%. The rate of the credit has risen over time to a base of 25%, with a maximum amount of 35%, and an additional 5% credit for productions that are shot at least 60 miles beyond the exterior boundaries of Bernalillo and Santa Fe Counties. The incentive was last revised in 2019 with the Film Production Tax Credit Act coming into force in July that year. It raised the annual cap of the credit to \$110 million and included the additional 5% credit for expenditure outside certain counties as specified above.<sup>195</sup>

Two other uplifts to the 25% base are also available:

- An additional 5% credit for standalone pilots intended for television series in New Mexico and television series productions intended for commercial distribution with an order for at least six episodes in a single season. An additional 5% credit is available if certain criteria are met regarding the use of qualified production facilities
- In addition, the Non-Resident Below-the-Line Crew Exception credit (NRCE) allows for a 15% credit for the payment of wages for below-the-line crew who are not New Mexico residents. New Mexico's Film Crew Advancement Program (FCAP) provides an incentive 50% of wages for up to 1,040 hours to employers providing on-the-job training

To qualify for the tax credit, a production must be intended for exhibition and reasonable commercial exploitation; and the project (or product) must be commercially viable – available to the public either via purchase or because media buys are in place.

If a project fulfils these criteria, it can be from a wide range of genres ranging from feature films, television and commercials to student films, and include virtual reality, content-based mobile apps and other audiovisual forms.

The state also operates New Mexico Partners, which is aimed at large companies which commit to New Mexico for 10 years. Companies which commit to this programme are exempted from the annual cap on tax credit claims.

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<sup>195</sup>. *Film Production Tax Credit*. New Mexico Taxation and Revenue Department, 2019. Accessible at: <https://nmfilm.com/wp-content/uploads/2020/09/FYI-370-Information-Regarding-Film-Production-Tax-Credits.pdf>

### 12.15.6. Pennsylvania

Pennsylvania operates the Video Game Production Tax Credit (VGPTC) to attract video games investment into the state. The tax credit offers up to 25% of qualified expenses in the first four years of production, with 10% available for each subsequent year. To be eligible, a minimum of 60% of the total production expenses must be Pennsylvania production expenditure and the applicant must have evidence that at least 70% of the financing has been secured at the time of application and the remaining will be secured prior to the projected start date. The programme has an annual budget of \$1 million.



**UK FILM AND  
TELEVISION STUDIO  
ANALYSIS**

**13**

## 13.1. Overview

The attractiveness and stability of the UK's screen sector tax reliefs has helped to create an environment in which investment is being attracted from private and public sources into film and television studios. These are key elements of production infrastructure, with many film and high-end television (HETV) projects having significant studio requirements during production.

Investor confidence in the UK is underlined by the expansion of some of the UK's largest film and television studios and the development of major new studios. There has also been particular activity from major production entities, including:

- Disney, which in 2019 entered into a long-term agreement with Pinewood Studios to take all stages, backlots and other production accommodation at Pinewood Studios in Buckinghamshire<sup>196</sup>
- Netflix, which in 2019 announced it was creating a dedicated production hub featuring 14 stages, workshop and office space at Shepperton Studios<sup>197</sup>
- Sky, which is set to build a significant new film and television studio in Elstree, with 12 stages planned<sup>198</sup>

While development in the film and television studio sector in the past has mainly centred on the Metro London cluster, recent years have seen infrastructure planning and development across the UK, with investment in all UK nations and in several of England's regions – albeit at a lower intensity than in Metro London.<sup>199</sup>

For example, Belfast Harbour Studios received planning permission for the construction of a second phase of development;<sup>200</sup> First Stage Studios is converting a large industrial space in Edinburgh with the potential for five stages;<sup>201, 202</sup> and Versa Leeds Studios has developed a new facility in Leeds which is set to open in 2022.<sup>203</sup> Meanwhile, The Depot in Liverpool – which offers two 20,000 ft<sup>2</sup> purpose-built temporary production spaces – opened in October 2021.<sup>204</sup>

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**196.** *Pinewood enters into long-term contract with Disney.* Pinewood Group, 8 September 2019. Accessible at: <https://pinewoodgroup.com/pinewood-today/news/pinewood-enters-into-long-term-contract-with-disney>

**197.** *Netflix creates UK production hub at Shepperton Studios.* Netflix, 3 July 2019. Netflix also announced that, over the past year before this announcement, 'over 25,000 cast, crew and extras had worked on almost 40 Netflix originals and co-productions across Britain'. Accessible at: <https://about.netflix.com/en/news/netflix-creates-uk-production-hub-at-shepperton-studios>

**198.** *Sky Studios Elstree receives planning approval.* Sky, 9 July 2020. Accessible at: <https://corporate.comcast.com/stories/sky-studios-elstree-receives-planning-approval>

**199.** While this study uses Eurostat's Nomenclature of Territorial Units for Statistics (NUTS) 1 approach to define England's regions, a new Metro London definition has also been created for this study. Metro London combines Greater London with Hertfordshire (from East of England) and Buckinghamshire (South East) to form a Metro London region that better reflects the geography of the film and television production sector, given that several of the major studio facilities are located in these counties. The Metro London approach overcomes the imbalance that using NUTS 1 definitions around London would have created.

**200.** *Belfast City Council gives go-ahead for £45m Harbour film studios investment.* Belfast Telegraph, 22 July 2020. Accessible at: <https://www.belfasttelegraph.co.uk/news/northern-ireland/belfast-city-council-gives-go-ahead-for-45m-harbour-film-studios-investment-39389633.html#:~:text=Belfast%20Harbour%20has%20now%20secured,Park%20on%20the%20North%20Foreshore.>

**201.** First Stage Studios to open in Leith. Film Edinburgh. Ibid

**202.** In November, 2020, it was announced that First Stage Studios would host the production of the Amazon Original series *The Rig*. *New Amazon Original series, The Rig, to be filmed exclusively in Scotland.* Screen Scotland website, 3 November 2020. Accessible at: <https://www.screen.scot/news/2020/11/new-amazon-original-series-the-rig-to-be-filmed-exclusively-in-scotland>

**203.** *Studios and Build Spaces.* Screen Yorkshire webpage. Accessible at: <https://www.screenyorkshire.co.uk/filming-in-yorkshire/studios-and-build-spaces/>

**204.** *The Depot – Liverpool's new temporary shooting space tops out.* Liverpool Film Office, 18 March 2021. Accessible at: <https://www.liverpoolfilmoffice.tv/press/the-depot-liverpools-new-temporary-shooting-space-tops-out/>. As noted in the press release, the Liverpool City Region Combined Authority has approved investment of £17 million to support the new shoot space, along with the Littlewoods Film and TV studios

The importance of expanding the UK's film and television studio offer in order to service increasing levels of production was recognised by HM Government which, in 2020, provided the British Film Commission (BFC) with £4.8 million over three years to expand its work promoting the UK as a destination of choice for film and television studio investment.<sup>205</sup>

## 13.2. The importance of film and television studios

Along with the provision of stable and effective incentives and a skilled workforce, film and television studio infrastructure is a crucial part of a well-developed screen sector production offer.

As well as playing a key overall role in attracting productions, local studio infrastructure enables regions to increase production value, as projects can spend more time in production in that region.

Stages, which can vary between conversion of pre-existing industrial spaces to purpose-built high-end sound stages, are the central offer for all studio facilities. To support this, most studios have a range of ancillary spaces such as workshops, offices, storage and backlot, while some sites also have co-located vendors offering equipment rentals and other goods and services.

For productions, there is significant value in terms of cost and convenience in the clustering benefits of studio infrastructure. At developed studios, producers can easily source equipment and services on-site or nearby.

## 13.3. Defining and calculating studio investment

There are a number of challenges in accurately valuing the ongoing expansion in the UK's studio offer. Firstly, new projects may be announced before planning permission or funding is obtained. Attrition is therefore a consideration, with some projects not proceeding beyond the preliminary planning phase. Obtaining precise investment totals is also challenging, given the commercial sensitivity of this information, while the nature of construction means that applying the capital expenditure accurately to a specific year may not be possible.

Because of these factors, the totals in this section should be considered to be broad estimates.

The challenges of measurement informed the methodology used to estimate the investment in studio infrastructure over the study period.

Firstly, detailed desk research was undertaken to develop a model of all reported studio developments in the UK over the study period 2017–2019. Research was also conducted into each studio development to ascertain the investment amount, location and type of development (ie purpose-built or conversion).

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<sup>205</sup> *Budget 2020: British Film Commission receives £4.8 million boost.* British Film Commission, 12 March 2020. Culture Secretary Oliver Dowden said: 'Our £4.8 million funding will help drive inward investment and grow our talented sector. With demand for our skills and services growing, the British Film Commission will become a one stop shop of expert advice for investors and developers to promote the UK as a destination for film and television production.' Accessible at: <http://britishfilmcommission.org.uk/budget-2020-british-film-commission-receives-4-8-million-boost/>

The analysis also included planned studio developments announced up to the end of 2020. This is because investment decisions made after the study period are likely to have been influenced by the strength of the UK market over the study period.

Once completed, it was necessary to verify the developments in the desk research model. This is because planned or announced studio developments may not ultimately proceed, or delivery may be phased over time. As with general real estate projects, they are dependent on a range of factors to progress, including planning permission, securing investment and a strong level of customer demand.

The list of announced developments was reviewed by the BFC, which provided information on projects which had planning permission in place, as well as those which were completed.

This revised and verified list was used to model two scenarios. The first focused on actual capital spend between 2017 and 2019 and the second focused on the overall planned expansion cost announced between 2017 and 2020. The timeframe for the latter was extended to the end of 2020 to reflect the fact that the underlying investment decisions would have been based in part on the performance of the UK film and television sector between 2017 and 2019.

Investment figures were then assigned to each project. Where an investment amount had been reported, attempts were made to verify the published amount. Where investment figures have not been made public, a multiplier developed by Nordicity and Saffery Champness was used to estimate investment amounts. In total, eight projects were estimated based on this approach, with seven based on values publicly reported or obtained through research.

This analysis estimated that £131.6 million was spent on studio projects between 2017 and 2019. This included £24.6 million of capital invested in the period in building or expanding studios outside of Metro London.

In addition, an estimated £785.4 million in planned studio investment has been announced for projects which received planning permission by the end of 2020. As previously outlined, these figures should be regarded as broad estimates; due to the nature of studio investment and development, it is not always possible to define the precise moment the investment takes place, if at all, and any investment may span several years.

**Table 89**  
**Investments in UK film and television studios, 2017-2019**

Studio Development	Capital expenditure	Source
<b>Pinewood and Shepperton Studios,</b> Metro London (Total Investment, 2017-2019)	£100 million	Pinewood Group
<b>Space Studios,</b> Manchester (Expansion)	£14 million	Space Studios <sup>206</sup>
<b>Others</b>	£17.6 million	
<b>Total</b>	<b>£131.6 million</b>	

**Table 90**  
**Planned investments in UK film and television studios, announced 2017-2020**

Studio Development	Announced, Estimated or Reported Investment	Source
<b>Eastbrook Studios,</b> Metro London	£300 million	BBC <sup>207</sup>
<b>Elstree Studios</b> (Expansion), Metro London	£15.6 million	Elstree Studios <sup>208</sup>
<b>Pinewood and Shepperton Studios,</b> Metro London	£170 million	Pinewood Group
<b>Sky Studios Elstree,</b> Metro London	£192 million	Building.co.uk <sup>209</sup>
<b>Others</b>	£107.8 million	
<b>Total</b>	<b>£785.4 million</b>	

<sup>206</sup>. *New TV Stage Expansion Dominates Skyline Manchester, Space Studios Manchester*, 22 March 2017. Accessible at: <https://spacestudiosmanchester.co.uk/new-tv-stage-expansion-dominates-skyline-manchester/>

<sup>207</sup>. *Eastbrook Studios: Hollywood firm sign deal for Dagenham studios*. BBC, 3 November 2020. Accessible at: <https://www.bbc.co.uk/news/uk-england-london-54797953>

<sup>208</sup>. *Elstree Studios Expansion Gets Under Way*. Elstree Studios, 24 May 2021. Accessible at: <https://www.elstreestudios.co.uk/2021/05/elstree-studios-expansion-gets-way/>

<sup>209</sup>. *Bam inks £190m Sky studios deal*. Building, 1 February 2021. Accessible at: <https://www.building.co.uk/news/bam-inks-190m-sky-studios-deal/5110144.article>

# SCREEN SECTOR INNOVATION

# 14

In addition to generating a range of economic impacts, the UK is also a significant screen sector innovation hub.

The screen sector is inherently innovative, since every product created – whether a video game, film, high-end television (HETV) programme, animation programme or children’s television programme – is new and unique.

Innovation is a key theme of HM Treasury’s *Build Back Better strategy*.<sup>210</sup>

In the screen sector, innovation is delivered in a number of ways across both process and product. To demonstrate this, five case studies are outlined in this section which examine how innovation is occurring right across the screen sector value chain, and around the UK. They relate to cutting-edge production techniques that combine technologies developed in different parts of the screen sector, developments in intellectual property (IP) creation and immersive technologies. They also underline the potential that screen sector innovations have for the UK economy on a wider basis.<sup>211</sup>

## 14.1. Jellyfish Pictures

A leading VFX and animation studio with an innovative operational business model that has seen it expand outside of London and move into IP-creation

Jellyfish Pictures is a successful UK visual effects (VFX) and animation studio that prior to the COVID-19 pandemic had already integrated cloud-working into its business model.

The company was established in 2001, with just three artists and one producer, and opened its first studio in Soho in 2003. Over the intervening two decades, the company has grown to a capacity of over 300, and has won awards from BAFTA®, the Visual Effects Society, the Royal Television Society, and an Annie and an Emmy®.

The company’s first long-form television series was BBC documentary *The Story of One* in 2005 and Jellyfish has since provided VFX for a wide variety of major projects including the BBC documentary series *Planet Dinosaur*, television dramas such as HBO’s *Watchmen* and films such as three of the recent instalments in the *Star Wars* franchise. Jellyfish has produced animation for the BBC in the historical short film *Tandey’s War*, re-invented British cartoon *Dennis and Gnasher* as CGI and produced several commercials. In the last two years it has formed a strong relationship with DreamWorks Animation, producing a special in the *How to Train Your Dragon* franchise and completing a first full feature animation for DreamWorks, *Spirit Untamed*, released in cinemas in July 2021.

<sup>210</sup>. *Build Back Better*. HM Treasury, 2021. Accessible at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/968403/PfG\\_Final\\_Web\\_Accessible\\_Version.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/968403/PfG_Final_Web_Accessible_Version.pdf)

<sup>211</sup>. It should be noted that these case studies do not specifically link to tax reliefs, but instead provide a broader outline of sectoral innovation

Jellyfish Originals was launched in 2017, which saw the company start to develop its own original animated children's content – long-form animated series, serials and features – for a broad demographic.

Despite the company's focus on character, story and visual image, Jellyfish Pictures also understands the viewing habits of next generation audiences and the ever-evolving media landscape. To this end, the company integrates on-demand, digital, toys, games and mobile content into building their intellectual properties' branding to more effectively compete in the market.

Jellyfish Pictures' innovative approach in development and production has extended to the company amending its operating model to invest in cloud and virtual technologies. This has led, according to Jellyfish Pictures, to becoming Europe's first wholly virtual VFX and animation studio when, in 2017 and with up to 200 workers, the company made its first virtually produced project, *Bitz & Bob*.

This model of having a studio connected through cloud-working procedures meant the company could be flexible and agile in taking on new talent and projects, allowing studios to be set up in different locations without high infrastructure costs. Consequently, the company allowed more flexible home working practices due to the portability of this type of work and expanded in 2019 to include a new studio in Sheffield. It underlines the commitment from Jellyfish Pictures' CEO Phil Dobree to cultivate a 'larger creative industries presence outside of London'.<sup>212</sup>

The natural extension of this way of working was to allow any individual who wanted to work from home to do so. At the end of 2019, prior to the COVID-19 pandemic, the company invested in its own Tier 1 data centre in London with all key hardware to create a private cloud. This can handle the company's intensive day-to-day data needs within a highly secure network, with people logging in from wherever they choose to work. Therefore, the infrastructure was in place when the pandemic struck, enabling a move to 100% working from home.

In the company's experience, the intervening year has not seen a loss in productivity or quality of work and the technology and security protocols have allowed everyone to work off the same IT infrastructure securely. However, as pandemic strictures ease, Jellyfish Pictures anticipates a return to a blended way of working that combines the benefits of what the studio and the company culture has to offer, as well as greater personal flexibility and access to talent across the UK or around the world, without necessitating a relocation to London or Sheffield.

In terms of supporting staff creativity, the company has set up its own IP incubator, Creative Bloom, where anyone from within the company (or their friends) can bring forward any ideas with creative and/or commercial potential, primarily for animation. If selected, the idea is developed further by recruiting the right partners, with the intention of taking it to market. Currently, there are several projects in the pipeline.

The last two decades have seen Jellyfish Pictures on a trajectory from start-up to world-class studio, providing first-class services and creating IP. By focusing on how operations can be made more cost-effective and flexible, the company has been resilient during the pandemic. The future for Jellyfish Pictures is one of an agile organisation with an infrastructure hub and low-cost flexible studio sites more widely distributed across the UK and globally, delivering high calibre VFX and animation content.

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<sup>212</sup>. *Jellyfish Pictures expands northern presence with new studio in Sheffield*. Animation UK, 26 February 2020. Accessible at: <https://www.animationuk.org/news/jellyfish-pictures-expands-northern-presence-with-new-studio-in-sheffield/>



## 14.2. StoryFutures and StoryFutures Academy

Two related projects that are harnessing immersive storytelling to increase innovation both within the screen sector and elsewhere in the UK economy

The UK Government's 2017 Industrial Strategy identified immersive technologies as a key potential area of economic growth for the UK.<sup>213</sup> StoryFutures Academy (SFA) and StoryFutures (SF) are two closely related projects that were both born out of this strategy and funded by the UK Research and Innovation's Audience of the Future Challenge Fund and the Creative Industries Clusters Programme. The immersive technologies encompass augmented reality (AR), virtual reality (VR) and mixed reality (MR), which collectively are also known as extended reality (XR).

Historically, the broader creative industries have not had ready access to research and development (R&D) funding, and so the clusters programme was a funding innovation that provided similar R&D-style investment to the creative industries that science and industry have traditionally received. Such investment is a live area of debate and intervention: for example, Innovate UK has opened a funding scheme aimed exclusively at supporting R&D in the creative industries. In addition, the UK Government has opened a consultation on R&D tax reliefs where creative industries and screen industry stakeholders will have the opportunity to advocate for the definition of R&D to include the creative industries explicitly.

SFA is the UK's National Centre for Immersive Storytelling led by the National Film and Television School and Royal Holloway, University of London. SFA delivers R&D-led training into the creative use of immersive technologies for storytelling, in order to better understand the use and adoption of XR as well as to develop the UK's creative workforce as the most skilled in XR.<sup>214</sup>

SFA helps support and encourage 'traditional' film, television and games makers to understand XR by:

- Providing cutting-edge creative training in immersive story form
- Giving opportunities to traditional screen industry talent to work on immersive productions to create prototype and pilot productions
- Offering development finance for participants
- Fostering co-productions

The training includes bootcamps, on-set training, writers' labs and a train-the-trainer initiative, as well as a number of funding mechanisms and commissions. SFA has recently agreed five commissions through the UK-Canada Immersive Exchange with Arts Council England and the Canada Media Fund, a means of creating collaborative content from the two strongly-developing XR jurisdictions, by coupling creative talent and production companies with funding available from the two markets.

<sup>213</sup>. *Industrial Strategy: Building a Britain fit for the future*. HM Government, 27 November 2017. Accessible at: <https://www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future>

<sup>214</sup>. StoryFutures Academy. Accessible at: <https://www.storyfutures.com/academy>

Meanwhile, SF is led by Royal Holloway, University of London and is part of the Arts and Humanities Research Council's Creative Industries Clusters Programme.<sup>215</sup> It is a programme of R&D projects with screen industries' businesses west of London that drives innovation in story form into storytelling, business behaviours and audience development.

The SF approach to R&D involves working with a large organisation that has a barrier to growth and solving it through the creative application of XR technologies.<sup>216</sup> It then works to turn that barrier into an R&D challenge that academics and small and medium-sized enterprises (SMEs) can solve together in a multistep, collaborative process to produce a proof-of-concept prototype. The process is as follows:

- i. A large organisation identifies a challenge that represents wider sector barriers to XR growth
- ii. SF helps turn that challenge into a creative R&D brief
- iii. Groups of academics and SMEs work together to develop a solution as a paper prototype
- iv. The various paper prototypes are presented together and one selected for development
- v. The large organisation and SF will then fund the research of the winning proposal to produce an audience-ready proof of concept

The projects have resulted in innovative storytelling techniques being used in the screen sectors, but importantly the work has also had impact in other sectors of the economy and has even been used to directly affect behaviours. For example, Surround Vision, Costa Coffee and Heathrow Airport used an AR storytelling experience to drive a 130% increase in recycling of coffee cups at Heathrow Airport. Previous research at Heathrow had shown that, while people intend to recycle their coffee cups, they usually do not, let alone recycle them correctly by separating lid, contents and cup into different bin compartments. And so, by using consumer behaviour psychology, computer vision and AR technologies with experiential storytelling, Cupsy was created – an immersive and interactive coffee cup recycling experience, via an AR screen, to improve recycling behaviours.

So far in the first two and a half years of SF, there have been 65 R&D collaborations, which have resulted in 25 new products, supported more than 125 jobs and released over £7 million of leveraged funding from commercial, public and third sectors to support XR growth. In the same period, SFA trained over 1,000 beneficiaries, produced 38 co-productions, supported more than 200 jobs and released over £3.5 million in leveraged funding from partners.

Taken together, the SFA and SF are coupling research and skills development to real world situations to produce innovative immersive technology solutions. Collectively, this will help develop the UK's creative industries as a world leader in XR.

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<sup>215</sup>. *StoryFutures Creative Clusters*. Accessible at: <https://www.storyfutures.com/creative-cluster>

<sup>216</sup>. A large organisation is one defined by ONS as having over 250 employees. The SF then use 11 criteria including size to select a challenge: ranging from scale of investment to market opportunity, to audience reach, to research data collaboration

## 14.3. Virtual production

A cutting-edge example of the convergence of media technology, located at the confluence of film, video games, animation, VFX and HETV production

Rapid advances in virtual production are capturing the imagination of high value feature film and HETV producers.

Virtual production utilises technology from the video games sector when shooting film and television production. It can reduce the reliance on location filming and the number of crew needed on set (some of whom can now be present off-set). 'Virtual production' is a term used to describe a wide range of techniques that allow filmmakers to use VFX and computer graphic technologies in real time, either:

1. To design sequences and provide data and an offline ('previs') version of the final sequence – for example, as used in the live action version of *The Lion King*; or
2. To combine final pixel computer graphics (CG) with live action as it is being filmed – for example, the UK production of *The Batman*

This second innovation, which was also successfully used in the production of *The Mandalorian*, is generating significant attention and, in the context of the COVID-19 pandemic, has provided some advantages.

This real-time, final pixel, live action filming has become possible as a result of advances in game engine technology – for example, the Unreal and Unity game engines – which have now evolved to the point where photorealistic CG can be 'rendered', or created, in real-time. This has also driven physical production innovation in camera operation and with on-set filming. In simple terms, this approach involves four processes happening instantly:

1. Tracking the movement of the camera and the lens
2. Feeding that information to the game engine
3. The game engine rendering the computer graphics in real time
4. The rendered CG being played back on a large wall of LED on a set or volumetric stage<sup>217, 218</sup>

Together, the approach ensures that the image on the LED wall has the correct perspective in relation to the foreground live action set and the camera.

**217.** An LED (light emitting diode) panel is used in virtual production to project the rendered CG images required for production. It allows for greater control of brightness and colour

**218.** A volumetric stage allows virtual production to capture a three-dimensional representation of the scene which offers multiple viewing angles. This is in contrast to a green screen which only allows for a two-dimensional viewing from the captured plane

The last two years has seen an explosion of activity in this area. There has been significant investment in the UK by UK-and foreign-owned firms in physical infrastructure, the back-end technology and in talent development – all of which drives the UK forward as a global centre and creates new roles and jobs within the virtual production segment of the production workforce.

For instance, the US studio Industrial Light & Magic (ILM) opened the ILM StageCraft stage at Pinewood early in 2021, which not only became the largest volumetric stage in the UK but further innovated on the original ground-breaking LED technology developed for *The Mandalorian* by increasing the ‘volume’ of the stage and utilising substantially more LED panels to offer higher resolution and a smooth wall to ceiling transition. This has resulted in better lighting on set and more in-camera finals.<sup>219</sup>

Additionally, there is also the purpose-built volumetric stage at Warner Bros. Studios Leavesden where *The Batman* started filming in 2020. British companies Framestore, MPC (Moving Picture Company) and DNEG are also developing their virtual production capability. Indeed, DNEG – the Oscar®, BAFTA® and Emmy® award-winning VFX and animation studio that produced the visual effects for Christopher Nolan’s *Tenet* – has formed a virtual production partnership with the multi-award-winning XR entertainment studio Dimension.<sup>220, 221</sup> This partnership brings together Dimension’s real-time development and LED stage expertise with DNEG’s in-house virtual production resources and real-time workflows, as they offer an enriched service to filmmaking partners across film, episodic and animation projects.

Virtual production, in addition to the technological innovations outlined above, presents a number of other advantages, including that:

- Virtual sets can reduce the need for location filming, thereby reducing travel and environmental impact
- Cast and crew can work within more a visual setting (as compared to green screen without pre-visualisation)
- Elements of post-production can now be done concurrently with principal photography, and so workflows can be made more efficient by reducing the need for re-shoots after principal photography is complete
- New jobs have been created to satisfy new roles now needed for real-time, final pixel, live action filming

In the context of the COVID-19 pandemic, virtual production has also allowed fewer people to be required on set, as a large range of production departments can collaborate live and virtually, thereby helping to enable the social distancing of the remaining crew on set.

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**219.** *Industrial Light & Magic opens ILM StageCraft stage at Pinewood*, British Cinematographer, 5 March 2021. Accessible at: <https://britishcinematographer.co.uk/industrial-light-magic-opens-ilm-stagecraft-stage-at-pinewood/>

**220.** *‘Tenet’ VFX House Forms Virtual Production Partnership*, The Hollywood Reporter, 16 February 2021. Accessible at: <https://www.hollywoodreporter.com/movies/movie-news/tenet-vfx-house-forms-virtual-production-partnership-exclusive-4133068/>

**221.** *DNEG and XR entertainment studio Dimension announce virtual production partnership*, UK Screen Alliance, 16 February 2021. Accessible at: <https://www.ukscreenalliance.co.uk/news/dneg-and-xr-entertainment-studio-dimension-announce-virtual-production-partnership/>

As a result, virtual production is poised to become a bigger element in the production process in the years to come. It also means that ways of working for writers, producers, production designers etc will develop in order to use the process efficiently. Indeed, decisions that were being left until post-production can now be made during production. This need for new skills has quickly been recognised by ScreenSkills, the industry-led skills body for the screen sectors, as it leads work to develop virtual production standards for training that incorporate real-time, final pixel integration of VFX into live action filming.

Virtual production is an example of the much-talked-about convergence of media technology and content, located as it is at the confluence of film, video gaming, animation, VFX and HETV production. The UK has grasped the potential of this innovation and is positioning itself as a global centre by investing in developing physical infrastructure and talent.

## 14.4. Future Screens NI and Screen Media Innovation Lab

A screen ecosystem approach to driving economic growth in Northern Ireland

Creative industries growth in Northern Ireland is a major success story, and screen sector expansion has been substantial. Northern Ireland hosted the production of global phenomenon *Game of Thrones* and continues to develop world-class capabilities and infrastructure, including a mixture of purpose-built studios and alternative build space for productions of varying sizes.

At the same time, there has been an acknowledgment that, despite the Northern Ireland-wide reach of the sector, it has been primarily comprised of single-person or micro-enterprises that are dispersed across Northern Ireland and poorly interconnected. Future Screens NI (FSNI) and Northern Ireland Screen have therefore championed an approach that has sought to bring together the sector into a true interconnected screen ecosystem.<sup>222</sup>

Key examples of this approach are the ongoing R&D projects funded by FSNI and the recently awarded Screen Media Innovation Lab (SMIL). FSNI is funded by the Arts and Humanities Research Council (AHRC) as one of the nine cluster projects in the Creative Industries Clusters Programme and SMIL is part of the Belfast Region City Deal. Both are explicitly part of strategic plans to further increase local economic growth and high value employment.

Prior to FSNI, Northern Ireland's creative industries businesses were ready to grow but needed R&D support and funding to make that change. The project has enabled greater interconnection within the sector. One element, Future Tuesdays, enables the creative sector to meet, network and initiate conversations on a weekly basis through curated programming.

<sup>222</sup>. Over 200 companies are active within the cluster as reported in the AHRC report, *The Story So Far - Creative Industries Clusters Programme*. Accessible at: <https://creativeindustriesclusters.com/wp-content/uploads/2020/02/Clusters-Booklet-Story-So-Far-V12-web.pdf>

The holistic nature of the ecosystem approach is reflected in the partnership that delivers FSNI. Ulster University is the lead research organisation supported by Queen's University Belfast, working with key industrial partners central to the creative economy in the region, including Northern Ireland Screen, the BBC, Belfast City Council, Belfast Harbour Commissioners, Causeway Enterprise Agency, Digital Catapult, Catalyst Inc., RTE, Games NI, Kainos, Invest NI, Techstart NI, Matrix and Tourism NI. This partnership is focused on participation, cultural and economic growth, and social and economic regeneration.

In the latest FSNI funding initiatives, a two-tier R&D structure allows for funding of both proof of concept (up to £20,000) and pre-commercialisation (up to £50,000). The FSNI project is at its mid-point and has funded 1,210 collaborative R&D projects. By working with key partners, it has delivered a direct investment of £25.2 million to the local creative economy, £22.5 million of which has been leveraged from industry partners, alongside a £2 million grant invested via the Industrial Strategy Challenge Fund, from the AHRC, as well as a further £0.7 million of in-kind support from both Ulster University and Queen's University Belfast.<sup>223</sup> The main creative areas targeted by FSNI have been animation, video games, immersive technologies including VR and AR, film, broadcast and, more recently, virtual production.

The key benefits seen have been:

- The creation of an environment for new and experimental creative content, products, services or experiences
- The establishment of long-term strategic applied research partnerships between creative enterprises, higher educational institutions and other relevant sectoral and local stakeholders
- An improvement in creative and digital enterprises' ability to access the skills, knowledge and expertise they require to develop new innovative products and services
- Key place-based/sector issues have been addressed through the applied research programmes
- Economic and social benefits including 60 jobs saved and the creation of 223 high-level innovation jobs

The initial success of FSNI has resulted in the Belfast Region City Deal supporting Ulster University's SMIL, as one of its innovation projects and as a driver of inclusive growth, especially as part of the economic recovery from the COVID-19 pandemic. SMIL will provide a centre of excellence in virtual production and will include a *Mandalorian*-scale, LED, volumetric stage. The facilities will also include motion capture and photogrammetry studios, as well as video and audio editing suites. The Lab will include incubation space and multi-workstation lab space and is intended to drive creative industries' engagement with a wider range of industrial sectors, including medtech, fintech, advanced manufacturing, and hardware and software innovation. SMIL is a critical component in accelerating the generation of talent required to drive future innovation in the screen sector in Northern Ireland and beyond in the rest of the UK.

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<sup>223</sup>. *Creative Industries Clusters Programme Mid-Term Review – Director's Reflections*. Accessible at: [https://drive.google.com/file/d/1Vv99\\_D\\_oTYiQ5IDcjNyFJcMAmdCSIT6V/view?usp=sharing](https://drive.google.com/file/d/1Vv99_D_oTYiQ5IDcjNyFJcMAmdCSIT6V/view?usp=sharing)

Future Screen NI has resulted in a profound change in mindset and capacity for the Northern Ireland creative ecosystem, where talent perceives itself to be on a global stage, not just a local one. SMIL builds on that confidence and will provide the physical infrastructure to create a virtual production centre of excellence and to help capitalise more broadly on the creativity and business opportunities that are present in harnessing the screen sectors to other industrial sectors.

## 14.5. Media Molecule's *Dreams*

A ground-breaking content-creation game that makes interactive content creation easy and helps distribute it, while encouraging collaboration and supporting talent development

Media Molecule is a video games development studio based in Guildford, known for multi-award-winning video games such as *LittleBigPlanet*, *LittleBigPlanet 2*, *Tearaway* and *Tearaway Unfolded*.

It launched the ground-breaking *Dreams* video game for the PlayStation 4 (PS4) in February 2020, following an initial early access period between April and December 2019, as part of Sony Interactive Entertainment's next generation of 'Play, Create and Share' games.

*Dreams* incorporates an almost professional-level games, animation and music studio accessed through a PS4 controller, which allows users to create their own video games, art, films and music.

While it has a traditional video game component developed by Media Molecule, the core gameplay is augmented by two additional innovative elements:

1. Content creation. Players – even beginners – are easily able to use their creativity to generate their own content. This includes games to gadgets, puzzles to paintings, and music to moving images
2. Content distribution and collaboration. User-generated content can be shared with other players to explore and experience, as well as be 'remixed' into others' creations or as a collaboration

The accessibility of these tools means that players with little or no experience can learn through a multiplicity of friendly, easy-to-understand tutorials on all aspects of coding, animation, modelling and sound design – an advantage over professional creation tools. Therefore, the video game is teaching its players transferable skills and, and in some cases, users' creations can ultimately lead to commercial products.

The potential to draw new talent into the industry is enhanced by the openness and sharing culture of the community element of the video game, where talent could be developed and identified. The *Dreams* community is one of players and creators, where anything created by 'Dreamers' (the video game's users), from sound effects to 3D models, can be used by other Dreamers in their own creations from a library of free video game assets. Indeed, Media Molecule has recruited talented Dreamers into its workforce, some of whom have already moved on into the wider sector.

Furthermore, Media Molecule encourages its creators to exploit their own original IP and, to that end, the company has instituted a beta evaluation process, where creators can put forward their original IP created through *Dreams* to be considered as potential business opportunities for development with Media Molecule.

*Dreams* has won numerous industry awards for its gameplay and innovation, including the BAFTA® Games 2021 Technical Achievement award. It is also an affordable and accessible tool for game development for the next generation of creators, offering individuals opportunities and routes into video games development.



# CONCLUSIONS

# 15

## 15.1. Total economic impact

In terms of the direct economic impact experienced within the production and development sub-sector and the other value chain sub-sectors, the five screen sector tax reliefs generated 68,630 FTEs, £2.96 billion in employment compensation and £5.57 billion in GVA for the UK in 2019.

**Table 91**  
**Direct economic impact of screen sector tax reliefs, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	FTR	29,560	33,430	31,630	31,160
	HETR	13,950	18,600	19,770	28,760
	ATR	1,780	1,850	1,800	1,460
	CTR	860	1,330	1,920	1,610
	VGTR	7,410	5,890	6,190	5,640
	<b>Total</b>	<b>53,560</b>	<b>61,100</b>	<b>61,310</b>	<b>68,630</b>
CoE (£m)	FTR	1,116.0	1,267.5	1,235.1	1,239.6
	HETR	552.0	764.6	854.6	1,269.1
	ATR	85.9	84.2	85.4	72.8
	CTR	33.8	56.6	84.7	75.5
	VGTR	386.0	292.4	330.4	305.4
	<b>Total</b>	<b>2,173.7</b>	<b>2,465.4</b>	<b>2,590.2</b>	<b>2,962.4</b>
GVA (£m)	FTR	2,443.1	2,862.3	2,877.7	2,912.5
	HETR	817.3	1,116.8	1,184.3	1,798.7
	ATR	112.1	140.0	135.2	130.6
	CTR	43.8	92.3	127.1	132.2
	VGTR	469.3	607.5	655.2	592.7
	<b>Total</b>	<b>3,885.6</b>	<b>4,818.8</b>	<b>4,979.5</b>	<b>5,566.7</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, industry surveys, ONS, ABS, ASHE, Ofcom, public financial reports, Attentional, BARB, Ukie, D&B, Ortus Economic Research, Superdata, NPD, OCC, BPI, Nielsen, ABC GfK and Kantar World Panel

Including direct, indirect and induced impacts, the screen sector tax reliefs generated 156,030 FTEs, £5.58 billion in employment compensation and £10.23 billion in GVA for the UK economy in 2019.

**Table 92****Total value chain economic impact of screen sector tax reliefs, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	FTR	63,180	73,000	68,460	68,930
	HETR	28,910	40,760	43,220	64,310
	ATR	3,290	4,110	4,100	3,730
	CTR	1,660	2,980	4,220	4,030
	VGTR	14,680	11,450	14,130	15,030
	<b>Total</b>	<b>111,720</b>	<b>132,300</b>	<b>134,130</b>	<b>156,030</b>
CoE (£m)	FTR	2,082.9	2,425.0	2,366.5	2,387.2
	HETR	983.6	1,410.4	1,569.1	2,342.6
	ATR	125.1	146.1	151.2	137.6
	CTR	54.9	102.2	150.0	144.6
	VGTR	593.5	451.5	558.3	572.8
	<b>Total</b>	<b>3,840.1</b>	<b>4,535.2</b>	<b>4,795.1</b>	<b>5,584.8</b>
GVA (£m)	FTR	4,162.9	4,929.6	4,906.0	4,975.5
	HETR	1,553.9	2,242.9	2,431.5	3,674.3
	ATR	186.4	258.1	261.0	254.6
	CTR	83.9	179.1	251.2	264.1
	VGTR	834.5	887.5	1,055.4	1,064.2
	<b>Total</b>	<b>6,821.7</b>	<b>8,497.2</b>	<b>8,905.1</b>	<b>10,232.8</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, industry surveys, ONS, ABS, ASHE, Ofcom, public financial reports, Attentional, BARB, Ukie, D&B, Ortus Economic Research, Superdata, NPD, OCC, BPI, Nielsen, ABC GfK and Kantar World Panel

## 15.2. Impact in UK nations and England's regions

Analysis of how total UK expenditure supported by FTR and HETR is dispersed across the UK's nations and England's regions shows that a significant amount of activity occurs outside of Metro London.

In the HETV sector around £1.56 billion in production spend, or around 33% of the UK total, was undertaken outside of Metro London between 2017–2019. Taking into consideration the total impact of the HETR content value chain, including direct, indirect and induced effects, 45,240 FTE jobs were created in Metro London in 2019 and 19,070 throughout the rest of the UK. This equated to £2.64 billion in GVA generated in Metro London in 2019 and £1.04 billion throughout the rest of the UK.

In the film sector, around £1.18 billion was spent outside Metro London between 2017 and 2019, representing around 19% of the total. Taking into consideration the total impact of the film content value chain, including direct, indirect and induced effects, 49,845 FTE jobs were created in Metro London in 2019 and 19,085 throughout the rest of the UK. This equated to £3.74 billion in GVA generated in Metro London in 2019 and £1.24 billion throughout the rest of the UK.

Across both sectors, there are year-on-year fluctuations which typically relate to one or more sizeable projects being located in a nation or region in one year and the scale of that production not being duplicated in the following year.<sup>224</sup>

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<sup>224</sup>. An analysis of the impact of the overall video games sector on the UK nations and England's regions is provided in Section 16.1.7.

**Table 93**

**Total economic impact of HETV and film content value chain, by UK nation and England's regions, 2017-2019 (includes direct, indirect and induced effects)**

		HETV			Film		
		2017	2018	2019	2017	2018	2019
Employment (FTEs)	East Midlands	375	303	487	919	717	780
	East of England	552	504	894	1,421	958	1,044
	Metro London	28,923	32,365	45,240	53,087	52,555	49,845
	Northern Ireland	2,012	1,252	727	564	520	537
	North East	241	178	291	709	471	909
	North West	2,283	2,589	5,565	2,393	2,238	2,528
	Scotland	1,825	1,591	2,228	3,085	2,171	2,335
	South East	1,158	988	1,921	4,329	3,794	3,952
	South West	982	963	2,422	2,365	1,430	2,139
	Wales	1,030	849	1,855	897	1,016	879
	West Midlands	663	647	944	1,841	1,327	1,778
	Yorkshire and the Humber	715	992	1,735	1,389	1,264	2,204
	<b>Total</b>		<b>40,760</b>	<b>43,220</b>	<b>64,310</b>	<b>73,000</b>	<b>68,460</b>
GVA (£m)	East Midlands	17.9	15.1	24.3	44.7	38.3	42.7
	East of England	27.2	26.2	47.8	84.7	66.5	75.3
	Metro London	1,621.3	1,851.0	2,639.2	3,779.0	3,909.8	3,735.0
	Northern Ireland	101.5	65.8	42.0	28.1	27.5	29.2
	North East	11.4	8.9	14.4	34.7	24.5	60.8
	North West	131.6	142.4	305.4	153.1	167.6	182.6
	Scotland	90.9	81.0	114.1	164.9	130.6	137.5
	South East	58.7	52.4	102.6	246.0	240.9	241.8
	South West	50.6	51.2	128.4	127.4	81.8	122.5
	Wales	58.4	47.7	108.7	52.9	62.6	56.1
	West Midlands	36.6	36.1	55.7	144.5	86.2	148.0
	Yorkshire and the Humber	36.9	53.8	91.6	69.5	69.7	143.9
	<b>Total</b>		<b>2,242.9</b>	<b>2,431.5</b>	<b>3,674.3</b>	<b>4,929.6</b>	<b>4,906.0</b>

Source: Source: Olsberg•SPI/Nordicity estimates

Note:

Figures may not sum to totals due to rounding

## 15.3. Overall economic contribution

The overall economic contribution of the screen sector tax reliefs combines the total economic impact across the screen sector value chain with the impact of the various spillover impacts associated with screen content supported by the tax reliefs. In 2019, the screen sector tax reliefs generated 218,790 FTEs, £13.48 billion in GVA and £3.60 billion in tax revenue for the UK.

**Table 94**  
**Overall economic contribution of screen sector tax reliefs, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	FTR	95,130	114,200	114,290	120,650
	HETR	34,900	48,320	52,320	74,620
	ATR	4,030	4,810	4,780	4,360
	CTR	1,660	2,980	4,220	4,030
	VGTR	14,830	11,540	14,230	15,130
	<b>Total</b>	<b>150,550</b>	<b>181,850</b>	<b>189,840</b>	<b>218,790</b>
GVA (£m)	FTR	5,673.4	6,946.1	7,231.5	7,684.9
	HETR	1,822.0	2,589.6	2,860.2	4,177.0
	ATR	220.1	290.5	293.0	285.2
	CTR	83.9	179.1	251.2	264.1
	VGTR	843.6	893.1	1,061.8	1,070.4
	<b>Total</b>	<b>8,643.0</b>	<b>10,898.4</b>	<b>11,697.6</b>	<b>13,481.6</b>
Tax revenue (£m)	FTR	1,385.3	1,702.2	1,801.4	1,892.9
	HETR	497.6	776.7	878.1	1,263.1
	ATR	68.3	107.6	114.0	110.2
	CTR	21.6	53.5	77.7	84.0
	VGTR	238.3	197.6	240.3	247.7
	<b>Total</b>	<b>2,211.0</b>	<b>2,837.6</b>	<b>3,111.6</b>	<b>3,597.9</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, industry surveys, ONS, ABS, ASHE, Ofcom, public financial reports, Attentional, BARB, Licensing International, Entertainment One, Mattel, Ukie, D&B, Ortus Economic Research, Superdata, NPD, OCC, BPI, Nielsen, ABC GfK, Kantar World Panel, Newzoo, and interviews with games publishers

# APPENDIX 1

Total video games sector impact

# 16

As noted in Section 6, the Video Games Tax Relief (VGTR) supported video games sector in the UK represents only a portion of current activity. To provide a full picture of the impact of the video games sector in the UK, analysis has been undertaken to estimate the total economic contribution, which is presented in this appendix.<sup>225</sup>

### Notes

2016 data have been revised from the previous edition of *Screen Business* to account for updates in projects tracked by the BFI since publication. Due to the video games development process, and the way in which VGTR is used by developers, there can be a significant lag in reporting. Data on expenditure and corresponding economic impacts for recent years outlined in this chapter do not therefore represent a year-on-year decline, but are reflective of this lag.

## 16.1. Direct impact

### 16.1.1. Development

To estimate the total value of spending, employment, compensation of employment (CoE) and gross value added (GVA) in the development sub-sector, data from Ukie's UK Games Map was combined with research conducted by Ortus Economic Research (Ortus) for 2016, additional research from Ukie, data from D&B and public financial reports (available from Companies House), Office for National Statistics (ONS) and the results of video games sector research conducted by Nordicity for the Entertainment Software Association of Canada (ESAC):

- The UK Games Map provided a detailed list of companies engaged in video games development in the UK<sup>226</sup>
- Data provided by Ortus were combined with research conducted by Olsberg•SPI, Nordicity and Ukie to assign actual or estimated levels of employment and GVA to each company for 2016
- For 2017 to 2019, Olsberg•SPI, Nordicity and Ukie conducted research to assign actual or estimated levels of employment and GVA to each company
- These company-based statistics were aggregated to arrive at an estimate of £1.80 billion in total GVA in 2019 generated across the developer companies in the Games Map
- Survey research conducted for ESAC indicated that the average GVA-to-turnover ratio among video games developers located in Canada was 0.66 in 2016.<sup>227</sup> For 2017 to 2019, the GVA-to-output ratio reported by ONS for SIC 62.01/1, *Ready-made interactive leisure and entertainment software development* was used. Based on these GVA ratios, overall revenue in the UK's development sub-sector was an estimated £2.77 billion in 2019

The UK Games Map and the associated company research conducted by Ortus, Ukie, Olsberg•SPI and Nordicity also indicated that development companies in the UK employed 17,937 people in 2019. This total employment was converted to FTEs using a conversion factor

<sup>225</sup>. As a general note, the video games trade association TIGA also undertakes research into the sector. See: <https://tiga.org>

<sup>226</sup>. UK Games Map accessible at: <https://gamesmap.uk>

<sup>227</sup>. Although this ratio was derived from survey data from outside the UK, the assumption is that the global nature of the video games development sector implies a congruence of business models and cost structures across peer jurisdictions such as the UK and Canada



of 0.97.<sup>228</sup> In total, therefore, video games development generated an estimated 17,350 FTEs of direct employment in 2019.

Based on statistics published by the BFI and HM Revenue & Customs (HMRC), an estimated £860.4 million was spent in the UK in 2019 on the development of video games supported by VGTR in 2019.<sup>229</sup> This spend represented 31% of the total estimated turnover of UK video games development companies in 2019.

The direct economic contribution generated by the development of VGTR titles and other UK-made video games was estimated, respectively, by applying their pro-rata shares of total development spend to the estimates of total employment, employment compensation and GVA across all video games development companies. The results of this pro-rata allocation are presented in Table 95.

**Table 95**  
**Direct economic impact of video games development in the UK, 2016-2019**

		2016	2017	2018	2019
VGTR	UK spend/turnover (£m) <sup>†</sup>	624.5	700.8	791.0	860.4
	Share of spend/turnover (%)	50	38	38	31
	Employment (FTEs)	6,910	5,550	5,670	5,390
	CoE (£m)	368.1	280.7	310.8	294.8
	GVA (£m)	412.2	567.6	585.3	559.3
Other UK-made video games	UK spend/turnover (£m) <sup>†</sup>	627.0	1,120.6	1,304.3	1,911.7
	Share of spend/turnover (%)	50	62	62	69
	Employment (FTEs)	6,930	8,870	9,340	11,960
	CoE (£m)	369.6	448.9	512.6	654.9
	GVA (£m)	413.8	907.7	965.2	1,242.6
Total	<b>UK spend/turnover (£m)<sup>†</sup></b>	<b>1,251.5</b>	<b>1,821.4</b>	<b>2,095.3</b>	<b>2,772.1</b>
	<b>Share of spend/turnover (%)</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
	<b>Employment (FTEs)</b>	<b>13,840</b>	<b>14,420</b>	<b>15,010</b>	<b>17,350</b>
	<b>CoE (£m)</b>	<b>737.6</b>	<b>729.6</b>	<b>823.4</b>	<b>949.7</b>
	<b>GVA (£m)</b>	<b>826.0</b>	<b>1,475.4</b>	<b>1,550.5</b>	<b>1,801.9</b>

Source: the BFI and Olsberg•SPI/Nordicity estimates based on data from Ukie, Ortus, D&B, ASHE and ABS

Note:

<sup>†</sup> Includes a mark-up of 48.1% to account for administration, marketing and other non-core activities at video games development companies

<sup>228</sup>. Employment statistics published by BRES indicate that part-time employees in SIC 6201/1, *Ready-made interactive leisure and entertainment software development* accounted for 6.5% of total employment. When these part-time employees are given a 50% weight, the implication is that the sector employs the equivalent of 0.97 FTEs for each person employed in the industry

<sup>229</sup>. The year-to-year growth in VGTR payments reported by HMRC for 2016/17 to 2018/19 (accrual basis) was applied to the total development spending supported by VGTR in 2016 (as reported by the BFI) to estimate the levels of VGTR-supported development spending in 2017, 2018 and 2019. This approach was required because of the lag in reporting of VGTR activity to the BFI, on account of the length of VGTR projects

## 16.1.2. Publishing

According to Ukie's research, in 2019 UK consumers spent over £3.86 billion on the purchase of video games – through both digital and physical sales.<sup>230</sup> As with the development sub-sector, the UK Games Map in combination with research conducted by Olsberg•SPI, Nordicity and Ortus was used to estimate the total employment, employment compensation and GVA in the publishing sub-sector:

- The UK Games Map provided a detailed list of companies engaged in video games publishing in the UK
- Data provided by Ortus were combined with research conducted by Olsberg•SPI, Nordicity and Ukie to assign actual or estimated levels of employment and GVA to each company for 2016
- For 2017 to 2019, Olsberg•SPI, Nordicity and Ukie conducted research to assign actual or estimated levels of employment and GVA to each company
- These company-based statistics were aggregated to arrive at an estimate of 3,773 employees in the publishing sub-sector in 2019. This figure was converted to 3,430 FTEs using an FTE conversion factor of 0.91
- The average full-time salary in SIC 5821, *Publishing of computer games* (£47,325) in 2016 was adjusted for annual consumer price index (CPI) inflation to arrive at an average full-time salary of £50,517 in 2019. This 2019 average full-time salary was adjusted to account for social security costs to arrive at an average FTE cost of £57,134.<sup>231</sup> The total number of direct FTEs (3,430) was multiplied by the average FTE cost (£57,134) to estimate direct CoE of £196.0 million in 2019
- These company-based statistics were aggregated to arrive at an estimate of £706.6 million in total GVA in 2019

A title-by-title review of video games sales in the UK conducted by Ukie concluded that UK-made video games had an overall market share of 14.1% across the digital and physical sales parts of the value chain in 2019. This estimated revenue market share (14.1%) was used to apportion total consumer sales between UK-made and non-UK titles, as well as the economic contribution.

In 2019, therefore, UK-made video games accounted for £547.9 million in consumer sales. Within the publishing sub-sector, UK-made video games accounted for 410 FTEs of direct employment, £23.4 million in direct employment compensation and £84.8 million in direct GVA.

The share of total development spend accounted for by VGTR projects (ie 31% in 2019) was used to apportion the value of sales of UK-made titles between VGTR and non-VGTR video games. The economic contribution of UK-made titles was, in turn, calculated using the same 31% share.

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**230.** *UK Video Games Market: 2019 Stats*. Ukie, 2021. Accessible at: [https://ukiepedia.ukie.org.uk/index.php/UK\\_Video\\_Games\\_Market#2019\\_Stats](https://ukiepedia.ukie.org.uk/index.php/UK_Video_Games_Market#2019_Stats)

**231.** The average full-time salary in SIC 5821 was obtained from the Annual Survey of Employment and Hours (ASHE). The social security adjustment factor was obtained from employment cost statistics for SIC 5821 published in the Annual Business Survey (ABS)

**Table 96**  
**Direct economic impact of video games publishing in the UK, 2016-2019**

		2016	2017	2018	2019
VTGR	Consumer sales (£m)	267.0	169.5	207.8	170.1
	Share (%)	8.6	4.8	5.2	4.4
	Employment (FTEs)	200	120	220	130
	CoE (£m)	10.7	6.6	12.4	7.4
	GVA (£m)	45.5	30.7	53.6	26.3
Other UK-made video games	Consumer sales (£m)	268.1	271.1	342.7	377.8
	Share (%)	8.6	7.6	8.5	9.8
	Employment (FTEs)	200	180	370	280
	CoE (£m)	10.7	9.9	20.8	16.0
	GVA (£m)	45.6	49.1	88.4	58.5
Sub-total – UK-made games	Consumer sales (£m)	535.1	440.7	550.5	547.9
	Share (%)	17.3	12.4	13.7	14.2
	Employment (FTEs)	400	300	590	410
	CoE (£m)	21.4	16.5	33.1	23.4
	GVA (£m)	91.1	79.7	142.1	84.8
Other games	Consumer sales (£m)	2,565.9	3,120.3	3,467.5	3,300.1
	Share (%)	82.7	87.6	86.3	85.8
	Employment (FTEs)	1,900	2,210	2,470	3,020
	CoE (£m)	101.7	121.3	138.8	172.6
	GVA (£m)	435.5	584.7	590.3	621.8
Grand total – all games sold in the UK	Consumer sales (£m)	3,101.0	3,561.0	4,018.0	3,848.0
	Share (%)	100	100	100	100
	Employment (FTEs)	2,300	2,510	3,060	3,430
	CoE (£m)	123.1	137.8	171.9	196.0
	GVA (£m)	526.6	664.4	732.4	706.6

Source: Ukie, GfK, Kantar World Panel, Superdata, and Olsberg•SPI/Nordicity estimates based on data from Ukie, Ortus, D&B, ASHE and ABS

Note:

Figures may not sum to totals due to rounding

### 16.1.3. Digital retail

The digital sales of video games generated £3.19 billion in consumer sales in the UK in 2019. On a global basis, these digital sales generated an estimated 6,830 FTEs of direct employment, £295.7 million in direct employment compensation and £612.5 million in direct GVA. However, as the vast majority of digital distribution platforms are based outside of the UK, it is estimated that only a small portion of this global impact occurs within the UK.

To estimate the impact of digital sales within the UK, employment data for certain small digital platform companies based in the UK were obtained, along with data on the UK's share of global workforce at the leading online global games platforms for which public financial information is readily available (for example, Apple Inc., Alphabet Inc. [Google] and Amazon.com, Inc.).<sup>232, 233</sup>

Based on this approach, digital sales generated 280 FTEs of direct employment, £12.1 million in CoE and £25.1 million in direct GVA in 2019 (Table 97). Of this total, UK-made video games accounted for an £468.9 million in sales, 40 FTEs of direct employment, £1.8 million in CoE and £3.7 million in direct GVA in 2019.

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**232.** Data supplied by Ukie indicated that GAME (online), Green Man Gaming, Fanatical and Stopto.net were all active in the digital platform market and employed a combined 105 persons

**233.** Data from public financial reports published by the multinational companies and by Companies House indicated that – after adjusting for their respective shares of global games platform market – their UK operations accounted for 4.1% of their global workforce

**Table 97**  
**Direct economic impact of digital sales of video games in the UK, 2016-2019**

		2016	2017	2018	2019
VTGR	Consumer spending (£m)	201.2	128.4	146.5	145.5
	Share (%)	9.1	4.8	4.6	4.6
	Employment (FTEs)	10	10	10	10
	CoE (£m)	0.8	0.5	0.6	0.6
	GVA (£m)	1.8	1.1	1.2	1.1
Other UK-made video games	Consumer spending (£m)	202.0	205.3	241.5	323.4
	Share (%)	9.1	7.7	7.6	10.1
	Employment (FTEs)	20	20	20	30
	CoE (£m)	0.8	0.8	0.9	1.2
	GVA (£m)	1.8	1.7	1.9	2.5
Sub-total – UK-made games	Consumer spending (£m)	403.1	333.8	388.0	468.9
	Share (%)	18.2	12.5	12.2	14.7
	Employment (FTEs)	30	30	30	40
	CoE (£m)	1.5	1.2	1.5	1.8
	GVA (£m)	3.7	2.8	3.1	3.7
Other games	Consumer spending (£m)	1,811.9	2,336.3	2,792.0	2,721.1
	Share (%)	81.8	87.5	87.8	85.3
	Employment (FTEs)	160	170	200	240
	CoE (£m)	6.1	7.2	8.9	10.3
	GVA (£m)	16.6	19.3	22.0	21.4
Grand total – all games sold in the UK	Consumer spending (£m)	2,215.0	2,670.0	3,180.0	3,190.0
	Share (%)	100	100	100	100
	Employment (FTEs)	190	200	230	280
	CoE (£m)	7.4	8.2	10.2	12.1
	GVA (£m)	20.3	22.0	25.0	25.1

Source: Olsberg•SPI/Nordicity estimates based on data from Ukie, Omdia, Superdata, GfK, Kantar World Panel, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

### 16.1.4. Physical retail

The physical sales of video games generated £658.0 million in consumer sales in the UK in 2019. These physical sales, in turn, generated 2,960 FTEs of direct employment, £71.7 million in employment compensation and £161.2 million in direct GVA (Table 98).

Of this total, UK-made video games accounted for an estimated £79.0 million in sales, 360 FTEs of direct employment, £8.6 million in employment compensation and £19.3 million in direct GVA in 2019.

**Table 98**  
**Direct economic impact of physical sales of video games in the UK, 2016-2019**

		2016	2017	2018	2019
VGTR	Consumer spending (£m)	65.9	41.1	61.4	24.5
	Share (%)	7.4	4.6	7.3	3.7
	Employment (FTEs)	290	210	290	110
	CoE (£m)	6.5	4.6	6.7	2.7
	GVA (£m)	9.8	8.1	15.0	6.0
Other UK-made video games	Consumer spending (£m)	66.1	65.8	101.2	54.5
	Share (%)	7.5	7.4	12.1	8.3
	Employment (FTEs)	300	330	480	250
	CoE (£m)	6.5	7.4	11.0	5.9
	GVA (£m)	9.9	13.0	24.8	13.3
Sub-total – UK-made games	Consumer spending (£m)	132.0	106.9	162.6	79.0
	Share (%)	14.9	12.0	19.4	12.0
	Employment (FTEs)	590	540	770	360
	CoE (£m)	12.9	12.1	17.7	8.6
	GVA (£m)	19.7	21.1	39.8	19.3
Other games	Consumer spending (£m)	754.0	784.1	675.4	579.0
	Share (%)	85.1	88.0	80.6	88.0
	Employment (FTEs)	3,390	3,940	3,180	2,600
	CoE (£m)	73.9	88.6	73.6	63.1
	GVA (£m)	112.3	154.5	165.5	141.9
Grand total – all games sold in the UK	Consumer spending (£m)	886.0	903.6	838.0	658.0
	Share (%)	100	100	100	100
	Employment (FTEs)	3,980	4,480	3,950	2,960
	CoE (£m)	86.8	100.7	91.3	71.7
	GVA (£m)	132.0	175.5	205.3	161.2

Source: Olsberg•SPI/Nordicity estimates based on data from Ukie, Superdata, GfK, Kantar World Panel, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

## 16.1.5. Summary

Summing these sub-sectors together, all UK-developed video games during 2019 generated 18,160 FTEs of direct employment, £983.5 million in direct employment compensation and £1.91 billion in direct GVA (Table 99). This includes only the publishing value related to UK-made content.

**Table 99**  
**Summary of direct economic impact of UK-made video games across the value chain, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Development	13,840	14,420	15,010	17,350
	Publishing	400	300	590	410
	Digital sales	30	30	30	40
	Physical sales	590	540	770	360
	<b>Total</b>	<b>14,860</b>	<b>15,290</b>	<b>16,400</b>	<b>18,160</b>
CoE (£m)	Development	737.6	729.6	823.4	949.7
	Publishing	21.4	16.5	33.1	23.4
	Digital sales	1.5	1.2	1.5	1.8
	Physical sales	12.9	12.1	17.7	8.6
	<b>Total</b>	<b>773.5</b>	<b>759.4</b>	<b>875.7</b>	<b>983.5</b>
GVA (£m)	Development	826.0	1,475.4	1,550.5	1,801.9
	Publishing	91.1	79.7	142.1	84.8
	Digital sales	3.7	2.8	3.1	3.7
	Physical sales	19.7	21.1	39.8	19.3
	<b>Total</b>	<b>940.5</b>	<b>1,578.9</b>	<b>1,735.5</b>	<b>1,909.7</b>

Source: Olsberg•SPI/Nordicity estimates based on data from Ukie, Superdata, GfK, Kantar World Panel, ABS and ASHE  
 Note:

Figures may not sum to totals due to rounding

Summing these sub-sectors together, all video games developed, published or sold in the UK during 2019 generated 24,020 FTEs of direct employment, £1.23 billion in employment compensation and £2.69 billion in direct GVA (Table 100). This includes only the publishing value related to UK-made content.

**Table 100**  
**Summary of direct economic impact of all video games developed, published or sold in the UK, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Development	13,840	14,420	15,010	17,350
	Publishing	2,300	2,510	3,060	3,430
	Digital sales	190	200	230	280
	Physical sales	3,980	4,480	3,950	2,960
	<b>Total</b>	<b>20,310</b>	<b>21,610</b>	<b>22,250</b>	<b>24,020</b>
CoE (£m)	Development	737.6	729.6	823.4	949.7
	Publishing	123.1	137.8	171.9	196.0
	Digital sales	8.4	9.9	12.1	12.2
	Physical sales	86.8	100.7	91.3	71.7
	<b>Total</b>	<b>956.0</b>	<b>978.0</b>	<b>1,098.8</b>	<b>1,229.6</b>
GVA (£m)	Development	826.0	1,475.5	1,550.5	1,801.9
	Publishing	526.6	664.4	732.4	706.6
	Digital sales	20.3	22.0	25.0	25.1
	Physical sales	132.0	175.5	205.3	161.2
	<b>Total</b>	<b>1,504.9</b>	<b>2,337.4</b>	<b>2,513.3</b>	<b>2,694.8</b>

Source: Olsberg•SPI/Nordicity estimates based on data from Ukie, Superdata, GfK, Kantar World Panel, ABS and ASHE



## 16.1.6. Total economic impact

The total economic impact (including indirect and induced impacts) of UK-made video games – VGTR and non-VGTR – was equal to 48,310 FTEs, £1.84 billion in employment compensation and £3.43 billion in GVA in 2019 (Table 101).

**Table 101**

**Total economic impact generated by UK-made video games throughout all parts of the value chain, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	14,860	15,290	16,400	18,160
	Indirect	8,730	7,410	11,940	18,120
	Induced	5,840	6,970	9,140	12,030
	<b>Total</b>	<b>29,430</b>	<b>29,670</b>	<b>37,480</b>	<b>48,310</b>
CoE (£m)	Direct	773.5	759.4	875.7	983.5
	Indirect	271.0	230.6	375.0	535.4
	Induced	153.0	185.4	243.1	324.9
	<b>Total</b>	<b>1,197.5</b>	<b>1,175.3</b>	<b>1,493.8</b>	<b>1,843.8</b>
GVA (£m)	Direct	940.5	1,578.9	1,735.5	1,909.7
	Indirect	444.7	382.9	610.9	927.8
	Induced	287.1	344.6	449.1	592.6
	<b>Total</b>	<b>1,672.2</b>	<b>2,306.3</b>	<b>2,795.5</b>	<b>3,430.1</b>

Source: Olsberg•SPI/Nordicity estimates based on data from Ukie, Superdata, GfK, Kantar World Panel, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

In 2019, all video games – either developed, published or sold in the UK – generated a total economic impact (including indirect and induced impacts) of 71,400 FTEs, £2.62 billion in employment compensation and £5.12 billion in GVA.

**Table 102**

**Total economic impact generated by all video games developed, published and sold in the UK, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	20,310	21,610	22,250	24,020
	Indirect	15,860	18,340	22,920	29,150
	Induced	10,000	13,080	15,380	18,230
	<b>Total</b>	<b>46,170</b>	<b>53,030</b>	<b>60,550</b>	<b>71,400</b>
CoE (£m)	Direct	956.0	978.0	1,098.8	1,229.5
	Indirect	427.2	544.9	706.0	900.5
	Induced	238.8	328.5	395.1	493.2
	<b>Total</b>	<b>1,621.9</b>	<b>1,851.4</b>	<b>2,199.9</b>	<b>2,623.2</b>
GVA (£m)	Direct	1,504.9	2,337.3	2,513.3	2,694.8
	Indirect	809.4	977.3	1,179.5	1,522.2
	Induced	491.8	654.2	749.0	902.8
	<b>Total</b>	<b>2,806.1</b>	<b>3,968.9</b>	<b>4,441.8</b>	<b>5,119.8</b>

Source: Olsberg•SPI/Nordicity estimates based on data from Ukie, Superdata, GfK, Kantar World Panel, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

### 16.1.7. Impact in UK nations and England's regions

This sub-section provides an estimate of the impact of the overall video games sector on the UK nations and England's regions. Estimates of the total employment and GVA impacts (including direct, indirect and induced impacts) are presented for the video games development sub-sector and for the entire video games value chain. This includes the development of video games in the UK and the publishing and sales (digital and physical) of all games in the UK regardless of the country in which they were developed.

The following approaches were used to prepare this nations/regions breakdown of the total economic impact.

**Development and publishing:** Within the Ukie Games Map, each video games company was classified to a nation or NUTS 1 region of England.<sup>234</sup> The employment data and estimated GVA for these companies were tabulated by nation and region to arrive at an estimate of the direct economic impact. Indirect and induced impacts were assumed to be distributed in proportion to direct impacts.

**Digital sales:** Data from ONS and the Northern Ireland Statistics and Research Agency (NISRA) for employment in *SIC 63.1, Data processing, hosting and related activities; web portals* by nation and region were used to allocate the UK-wide total economic impact.

**Physical sales:** Data from ONS and NISRA for employment in the retail sector by nation/region were used to allocate the UK-wide total economic impact.

In contrast to the nations and regions data for High-end Television Tax Relief (HETR) and Film Tax Relief (FTR), the nations and regions analysis for the video games sector uses the 'London' (ie Greater London) NUTS 1 region rather than the 'Metro London' region.

The nations and regions data demonstrate that London accounts for approximately one quarter of the total employment impact in the development sub-sector and between 30% and 40% of the GVA impact. The South East also accounts for a significant share of development employment and GVA.

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<sup>234</sup>. Nomenclature of Territorial Units for Statistics (NUTS)

**Table 103**

**Total employment impact of video games development, by UK nation and England's regions (includes direct, indirect and induced effects), 2017-2019**

		2017	2018	2019	
Employment (FTEs)	East Midlands	1,965	3,344	3,783	
	East of England	2,116	2,115	3,223	
	London	6,563	8,093	11,268	
	North East	1,058	1,138	1,765	
	North West	2,785	3,287	4,523	
	Northern Ireland	107	135	194	
	Scotland	2,505	4,118	5,674	
	South East	4,571	4,930	6,882	
	South West	845	945	1,309	
	Wales	180	173	240	
	West Midlands	2,645	2,740	4,816	
	Yorkshire and the Humber	1,141	993	1,455	
	<b>Total</b>		<b>26,480</b>	<b>32,010</b>	<b>45,130</b>
	Share of UK total	East Midlands	7.4%	10.4%	8.4%
East of England		8.0%	6.6%	7.1%	
London		24.8%	25.3%	25.0%	
North East		4.0%	3.6%	3.9%	
North West		10.5%	10.3%	10.0%	
Northern Ireland		0.4%	0.4%	0.4%	
Scotland		9.5%	12.9%	12.6%	
South East		17.3%	15.4%	15.2%	
South West		3.2%	3.0%	2.9%	
Wales		0.7%	0.5%	0.5%	
West Midlands		10.0%	8.6%	10.7%	
Yorkshire and the Humber		4.3%	3.1%	3.2%	
<b>Total</b>			<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: Olsberg•SPI/Nordicity estimates based on data from Ukie, Ortus, D&B, ASHE and ABS

Note:

Figures may not sum to totals due to rounding

**Table 104**

**Total GVA impact of video games development, by UK nation and England's regions (includes direct, indirect and induced effects), 2017-2019**

		2017	2018	2019
GVA (£m)	East Midlands	132.8	188.9	195.5
	East of England	228.8	213.8	357.3
	London	674.9	926.6	1,232.0
	North East	125.7	113.8	158.9
	North West	125.0	137.6	187.2
	Northern Ireland	4.0	4.3	5.5
	Scotland	175.2	219.3	334.6
	South East	354.3	363.4	362.0
	South West	46.3	44.9	56.6
	Wales	7.0	5.2	6.4
	West Midlands	135.9	135.4	229.9
	Yorkshire and the Humber	69.6	50.1	72.2
	<b>Total</b>	<b>2,079.5</b>	<b>2,403.2</b>	<b>3,198.2</b>
	Share of UK total	East Midlands	6.4%	7.9%
East of England		11.0%	8.9%	11.2%
London		32.5%	38.6%	38.5%
North East		6.0%	4.7%	5.0%
North West		6.0%	5.7%	5.9%
Northern Ireland		0.2%	0.2%	0.2%
Scotland		8.4%	9.1%	10.5%
South East		17.0%	15.1%	11.3%
South West		2.2%	1.9%	1.8%
Wales		0.3%	0.2%	0.2%
West Midlands		6.5%	5.6%	7.2%
Yorkshire and the Humber		3.3%	2.1%	2.3%
<b>Total</b>		<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: Olsberg•SPI/Nordicity estimates based on data from Ukie, Ortus, D&B, ASHE and ABS

Note:

Figures may not sum to totals due to rounding

Across the entire video games value chain, London accounts for 30% to 35% of the total employment impact and an even higher share of the GVA impact. London was followed by the South East and West Midlands in terms of impact.

**Table 105**

**Total employment impact of video games value chain, by UK nation and England's regions (includes direct, indirect and induced effects), 2017-2019**

		2017	2018	2019
Employment (FTEs)	East Midlands	2,453	3,742	4,089
	East of England	3,083	3,009	4,024
	London	18,794	20,486	21,974
	North East	1,461	1,514	2,449
	North West	3,693	4,054	5,157
	Northern Ireland	315	294	315
	Scotland	3,068	4,553	6,005
	South East	12,091	12,827	13,950
	South West	1,476	1,440	1,689
	Wales	523	444	448
	West Midlands	3,982	5,997	8,644
	Yorkshire and the Humber	2,091	2,189	2,657
	<b>Total</b>		<b>53,030</b>	<b>60,550</b>
Share of UK total	East Midlands	4.6%	6.2%	5.7%
	East of England	5.8%	5.0%	5.6%
	London	35.4%	33.8%	30.8%
	North East	2.8%	2.5%	3.4%
	North West	7.0%	6.7%	7.2%
	Northern Ireland	0.6%	0.5%	0.4%
	Scotland	5.8%	7.5%	8.4%
	South East	22.8%	21.2%	19.5%
	South West	2.8%	2.4%	2.4%
	Wales	1.0%	0.7%	0.6%
	West Midlands	7.5%	9.9%	12.1%
	Yorkshire and the Humber	3.9%	3.6%	3.7%
	<b>Total</b>		<b>100%</b>	<b>100%</b>

Source: Olsberg•SPI/Nordicity estimates based on data from Ukie, Ortus, D&B, Superdata, GfK, Kantar World Panel, ASHE and ABS

Note:

Figures may not sum to totals due to rounding

**Table 106**

**Total GVA impact of video games value chain, by UK nation and England's regions (includes direct, indirect and induced effects), 2017-2019**

		2017	2018	2019
GVA (£m)	East Midlands	154.5	210.2	212.6
	East of England	293.2	274.9	413.9
	London	1,616.7	1,842.8	2,032.3
	North East	148.4	137.4	208.0
	North West	167.4	180.6	224.8
	Northern Ireland	12.6	12.4	11.8
	Scotland	198.6	241.4	352.0
	South East	932.0	947.6	894.3
	South West	73.6	70.7	77.3
	Wales	23.2	20.1	18.3
	West Midlands	223.1	372.8	517.2
	Yorkshire and the Humber	125.7	130.8	157.3
	<b>Total</b>	<b>3,968.9</b>	<b>4,441.8</b>	<b>5,119.8</b>
	Share of UK total	East Midlands	3.9%	4.7%
East of England		7.4%	6.2%	8.1%
London		40.7%	41.5%	39.7%
North East		3.7%	3.1%	4.1%
North West		4.2%	4.1%	4.4%
Northern Ireland		0.3%	0.3%	0.2%
Scotland		5.0%	5.4%	6.9%
South East		23.5%	21.3%	17.5%
South West		1.9%	1.6%	1.5%
Wales		0.6%	0.5%	0.4%
West Midlands		5.6%	8.4%	10.1%
Yorkshire and the Humber		3.2%	2.9%	3.1%
<b>Total</b>		<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: Olsberg•SPI/Nordicity estimates based on data from Ukie, Ortus, D&B, Superdata, GfK, Kantar World Panel, ASHE and ABS

Note:

Figures may not sum to totals due to rounding

## 16.2. Spillover impacts

### 16.2.1. Merchandise and events

The major source of spillovers from video games, as with some of the other sectors in this study, is to the retail sector via merchandise. However, games-related events also generate spillover impacts.

Ukie publishes an annual valuation of the UK video games market which contains useful data which helps to calculate this impact. In 2019, games-related merchandise sales and events generated £146.4 million in revenue in the UK. This total included toys and merchandising sales (£94.2 million), books and magazine sales (£13.9 million), revenue from movies and soundtracks (£29.5 million), and events and venues revenue (£8.8 million).

**Table 107**

#### Video games-related merchandise and events revenue in the UK, 2016-2019 (£m)

	2016	2017	2018	2019
Toys and merchandising	66.8	72.9	59.3	94.2
Books and magazines	18.4	18.0	17.8	13.9
Movies and soundtracks	7.8	17.6	23.6	29.5
Events and venues	7.5	8.4	8.9	8.8
<b>Total sales</b>	<b>100.5</b>	<b>117.0</b>	<b>109.6</b>	<b>146.4</b>

Source: Ukie, Superdata, NPD, OCC, BPI, the BFI, Nielsen, ABC GfK and Kantar World Panel

Note:

Figures may not sum to totals due to rounding

The average retail margin for the UK of 30% was then applied to this total share to give an estimated retail margin of £43.8 million in 2019. ONS-derived ratios for the retail sector were applied to this to derive other economic impacts, allowing an estimation of 760 FTEs and £27.6 million in GVA in 2019.

**Table 108**

#### Total economic impact of video games-related merchandise sales in the UK (£m unless indicated otherwise), 2016-2019

	2016	2017	2018	2019
Retail sales	100.5	117.0	109.6	146.4
Retail margin	30.2	35.1	32.9	43.8
Employment (FTEs)	630	660	600	760
GVA	19.0	22.1	20.7	27.6
Tax revenue	3.8	4.4	4.1	5.5

Source: Olsberg•SPI/Nordicity estimates based on data from Ukie, Superdata, NPD, OCC, BPI, the BFI, Nielsen, ABC GfK, Kantar World Panel, ABS and ASHE



## 16.2.2. Esports

Esports is a rapidly-growing part of the video games sector, which involves the broadcast of video games being played competitively with large prizes and audiences. While it is a significant new and standalone component of the video games sector, for the purposes of this study the economic benefits of esports are counted as a spillover from the video games sector.

In 2020, Ukie published the first ever study of the economic value of the esports sector in the UK.<sup>235</sup> That study found that esports generated economic benefits for the UK through four key segments:

1. Esports services
2. Streaming platforms
3. Visitor tourism
4. Esports-related employment at games publishing companies

In total, esports generated 1,210 FTEs and £111.5 million in GVA for the UK economy in 2019. The esports sector is also estimated to have grown at an average annual rate of 8.5% between 2016 and 2019.

**Table 109**  
**Total economic impact of the esports sector in the UK, 2016-2019<sup>1</sup>**

	2016	2017	2018	2019
Employment (FTEs)	950	1,030	1,120	1,210
GVA (£m)	87.3	94.7	102.8	111.5
Tax revenue (£m)	20.1	21.8	23.6	25.6

Source: Olsberg•SPI/Nordicity estimates based on data from Ukie, Newzoo, industry survey (2019/2020), ONS and interviews with games publishers

Note:

1. Figures for 2016 to 2018 estimated by applying annual average growth rate of 8.5%

<sup>235</sup>. *The value of esports in the UK*. Ibid

### 16.2.3. Summary

In total, it is estimated that games sector spillovers generated 1,970 FTEs, £139.1 million in GVA and £31.1 million in tax revenue for the UK economy in 2019.

**Table 110**  
**Summary of economic impact of video games sector spillovers in the UK, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Merchandise and events	630	660	600	760
	Esports	950	1,030	1,120	1,210
	<b>Total</b>	<b>1,580</b>	<b>1,690</b>	<b>1,720</b>	<b>1,970</b>
GVA (£m)	Merchandise and events	19.0	22.1	20.7	27.6
	Esports	87.3	94.7	102.8	111.5
	<b>Total</b>	<b>106.3</b>	<b>116.8</b>	<b>123.5</b>	<b>139.1</b>
Tax revenue (£m)	Merchandise and events	3.8	4.4	4.1	5.5
	Esports	20.1	21.8	23.6	25.6
	<b>Total</b>	<b>23.9</b>	<b>26.2</b>	<b>27.7</b>	<b>31.1</b>

Source: Olsberg+SPI/Nordicity estimates based on data from Ukie, Superdata, NPD, OCC, BPI, the BFI, Nielsen, ABC GfK, Kantar World Panel, Newzoo, industry survey (2019/2020), ONS and interviews with games publishers

Note:

Figures may not sum to totals due to rounding

## 16.3. Overall economic contribution

Including these spillover impacts, the total impact of the entire video games sector in the UK (including video games developed, published or sold in the UK) amounted to 73,370 FTEs, and £5.26 billion in GVA in 2019.

**Table 111****Overall economic contribution of the UK video games sector (all games made or sold in the UK), 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Total value chain impact	46,170	53,030	60,550	71,400
	Spillover impacts	1,580	1,690	1,720	1,970
	<b>Overall economic contribution</b>	<b>47,750</b>	<b>54,720</b>	<b>62,270</b>	<b>73,370</b>
GVA (£m)	Total value chain impact	2,806.1	3,968.9	4,441.8	5,119.8
	Spillover impacts	106.3	116.8	123.5	139.1
	<b>Overall economic contribution</b>	<b>2,912.4</b>	<b>4,085.7</b>	<b>4,565.3</b>	<b>5,258.9</b>
Tax revenue (£m)	Total value chain impact	860.5	1,016.1	1,141.0	1,273.4
	Spillover impacts	23.9	26.2	27.7	31.1
	<b>Overall economic contribution</b>	<b>884.4</b>	<b>1,022.3</b>	<b>1,168.7</b>	<b>1,304.5</b>

Source: Olsberg•SPI/Nordicity estimates based on data from Ukie, D&B, Ortus Economic Research, Superdata, NPD, OCC, BPI, the BFI, Nielsen, ABC GfK, Kantar World Panel, Newzoo, industry survey (2019/2020), ONS and interviews with games publishers

## 16.4. Corporate investments and acquisitions

Recent years have seen significant levels of corporate investment flowing into the UK video games sector, with a number of developers attracting investment from foreign investors. According to analysis undertaken by Ukie, the total value of corporate investment and acquisitions of UK video games companies amounted to more than £5.1 billion between 2017 and 2020.<sup>236</sup>

This activity underlines the clear interest in UK video games companies. While the link between VGTR and these investments has not been tested by this study, the existence of a stable and supportive tax relief for the sector in the UK can be considered to be an influential factor.

Between 2017 and 2020, corporate investments amounted to approximately £756 million. As Table 112 demonstrates, 2017 was a particularly strong year for investment in UK video games companies. This was led primarily by an investment of \$502 million in London-based video games technology company Improbable in May 2017. The investment, led by Softbank, was to be invested in further developing Improbable's SpatialOS-distributed operating system, as well as other technology.<sup>237</sup>

In November 2020, \$25 million was invested into Lockwood Publishing, led by the Chinese technology conglomerate Tencent. Known for its successful online game Avakin Life, Lockwood Publishing has employees based in offices in Newcastle and Nottingham, as well as overseas in Lithuania and Portugal.

<sup>236</sup>. This total excludes some deals which did not publicly announce investment levels

<sup>237</sup>. *Improbable raises \$502m series B funding round led by SoftBank*. Improbable, 11th May 2017. Accessible at: <https://www.improbable.io/blog/improbable-raises-502m-series-b-funding-round-led-by-softbank>

Between 2017 and 2020, the acquisition of UK video games companies amounted to more than £3.8 billion. In 2020 alone, over £2.6 billion was spent acquiring UK video games companies, with the total driven by the acquisition of Codemasters by EA (Electronic Arts) for \$1.2 billion in December 2020. Also in 2020, mobile video games developer Hutch was acquired by Modern Times Group for \$275 million.

Between 2017 and 2020, the acquisition of UK video games companies has been led by globally renowned technology or video games corporations, including Snap Inc (PlayCanvas in 2018), Microsoft (Ninja Theory and Playground Games in 2018), Rockstar Games (Ruffian Games, renamed Rockstar Dundee in 2020), and Ubisoft (Freestylegames in 2017).

Many of the UK video games companies either being acquired or receiving investment are based in the UK nations and England’s regions. Examples include Red Kite Games in Leeds, Studio Gobo in Brighton, Playground Games in Leamington Spa, Cloudgine in Edinburgh, Milky Tea in Liverpool, Lockwood Publishing in both Nottingham and Newcastle and Ninja Theory in Cambridge.

**Table 112**  
**Investments and acquisitions of UK video games companies, 2017-2020 (£m)**

	2017	2018	2019	2020
Investment (£m)	468.6	83.4	64.2	139.9
Acquisition (£m) <sup>238</sup>	859.2	215.2	131.5	2,640
Stock Market Activity (£m)	-	497.0	0	13.1
Total value (£m)	1,330	795.6	195.7	2,790

Source: Ukie

<sup>238</sup>. Note: These figures do not include the acquisition amounts of companies where the deal amounts are not available

# APPENDIX 2

Total VFX sector

# 17

As outlined in Section 9, production within the tax reliefs represents only part of the total UK visual effects (VFX) sector. To provide full insight into the impact of this important sector, analysis has also been undertaken to estimate the economic contribution outside of the tax reliefs.

## Notes

2016 data have been revised from the previous edition of *Screen Business* to account for updates in projects tracked by the BFI since publication. Analysis in this chapter is based on projects certified to the end of 2020 only, so data may change in time as new applications for the years in question are submitted. In addition, adjustments have been made to the 2016 VFX data to account for an expanded cohort of VFX companies (derived from LinkedIn mapping) included in the analysis for 2017-2019

## 17.1. Direct impact

A survey of VFX studios in the UK was conducted to establish spending within the wider VFX sector – ie including VFX work for commercials, music videos, installations and interactive content.

In 2019, an estimated £710.0 million was spent on VFX in the UK (Table 113). Film and television made outside of the tax reliefs, along with television commercials and other video content, accounted for the largest proportion of this, at £346.5 million (49%). This was closely followed by Film Tax Relief (FTR) related productions, which accounted for £309.0 million (44%). High-end Television Tax Relief (HETR) projects accounted for £50.9 million (7%) in 2019, while Animation Tax Relief (ATR) programmes and Children’s Television Tax Relief (CTR) programmes accounted for less than 1%.

**Table 113**  
**Total spending on all VFX services in the UK, 2016-2019 (£m)**

	2016	2017	2018	2019
FTR	216.4	269.4	324.5	309.0
HETR	22.0	28.6	32.9	50.9
ATR	1.4	2.7	4.2	3.2
CTR	0.0	0.6	0.3	0.3
Other film/television†, television commercials and other video content	334.9	359.0	318.5	346.5
<b>Total</b>	<b>574.7</b>	<b>660.3</b>	<b>680.5</b>	<b>710.0</b>

Source: Olsberg•SPI/Nordicity estimates based on data from survey of VFX companies and D&B

Notes:

† Includes films and television projects made without support of the tax reliefs

Excludes any revenue earned by VFX companies from video or audio post-production services

Figures may not sum to totals due to rounding

Foreign clients accounted for £255.6 million, or 36%, of total VFX spend in the UK in 2019 (Table 114).

**Table 114**  
**VFX spend in the UK, by location of client, 2016-2019 (£m)**

	2016	2017	2018	2019
Non-UK clients	281.6	237.7	221.3	255.6
UK-based clients	293.1	422.6	459.2	454.4
<b>Total</b>	<b>574.7</b>	<b>660.3</b>	<b>680.5</b>	<b>710.0</b>
Foreign client share	49%	36%	33%	36%

Source: Olsberg•SPI/Nordicity estimates based on data from survey of VFX companies and D&B

Notes:

Excludes any revenue earned by VFX companies from video or audio post-production services

Figures may not sum to totals due to rounding

Using the Job Creation Model, total VFX production expenditure figures were analysed to estimate the value and impact of spending from each relevant fiscal tax relief through the VFX sector.<sup>239</sup> This analysis shows that VFX-related production generated 10,680 direct full-time equivalent (FTE) jobs in 2019, £517.6 million in direct compensation of employment (CoE) and £593.6 million in direct gross value added (GVA). Of these totals, production supported by one of the tax reliefs accounted for 5,470 FTEs, £265.0 million in employment compensation and £303.9 million in GVA (Table 115).

**Table 115**  
**Direct economic impact of all VFX production in the UK, 2016-2019**

		2016	2017	2018	2019
Tax reliefs	VFX spend (£m)	239.8	301.3	361.9	363.5
	Employment (FTEs)	3,820	4,730	5,390	5,470
	CoE (£m)	174.8	219.7	263.8	265.0
	GVA (£m)	200.5	251.9	302.6	303.9
Other film/ television†, television commercials and other video content	VFX spend (£m)	334.9	359.0	318.5	346.5
	Employment (FTEs)	5,340	5,640	4,750	5,210
	CoE (£m)	244.1	261.7	232.2	252.6
	GVA (£m)	279.9	300.1	266.3	289.7
<b>Total</b>	<b>VFX spend (£m)</b>	<b>574.7</b>	<b>660.3</b>	<b>680.5</b>	<b>710.0</b>
	<b>Employment (FTEs)</b>	<b>9,160</b>	<b>10,370</b>	<b>10,140</b>	<b>10,680</b>
	<b>CoE (£m)</b>	<b>418.9</b>	<b>481.4</b>	<b>496.1</b>	<b>517.6</b>
	<b>GVA (£m)</b>	<b>480.4</b>	<b>552.0</b>	<b>568.9</b>	<b>593.6</b>

Source: Olsberg•SPI/Nordicity estimates based on data from survey of VFX companies and D&B

Notes:

† Includes films and television projects made without support of the tax reliefs

Excludes any revenue earned by VFX companies from video or audio post-production services

Figures may not sum to totals due to rounding

<sup>239</sup>. Further information on the Job Creation Model can be found in Section 4.3.1.

As with the other production sectors covered in this study, spending through the VFX sector generates indirect impacts through purchases of goods and services and induced impacts through the re-spending of wages by direct and indirect employees. To estimate the value of these multiplier effects, a bespoke model was generated through an analysis of Office for National Statistics (ONS) input-output (I-O) tables.

This model indicated that the VFX sector generated a total economic impact, including indirect and induced impacts, of 15,130 FTEs, £633.8 million in employment compensation and £812.3 million in GVA in 2019 (Table 116).

**Table 116**  
**Total economic impact of all VFX production in the UK, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	9,160	10,370	10,140	10,680
	Indirect	1,730	1,950	2,050	2,130
	Induced	1,890	2,150	2,240	2,320
	<b>Total</b>	<b>12,780</b>	<b>14,470</b>	<b>14,430</b>	<b>15,130</b>
CoE (£m)	Direct	418.9	481.4	496.1	517.6
	Indirect	43.1	48.4	51.0	53.3
	Induced	50.8	58.3	60.2	62.9
	<b>Total</b>	<b>512.9</b>	<b>588.1</b>	<b>607.2</b>	<b>633.8</b>
GVA (£m)	Direct	480.4	552.0	568.9	593.6
	Indirect	84.4	95.1	100.0	104.3
	Induced	92.7	106.1	109.8	114.5
	<b>Total</b>	<b>657.5</b>	<b>753.2</b>	<b>778.7</b>	<b>812.3</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, ABS, ASHE and survey of VFX companies and D&B

Note:

Figures may not sum to totals due to rounding



### 17.1.1. Value chain impact

Table 117 combines the economic impact of all VFX production with the economic impact that VFX content (for film and television) generates across the value chain (see Table 76 in Section 9.3.). This combined economic impact generated 19,220 FTEs and £1.25 billion in GVA in 2019.

**Table 117**

**Total economic impact across the screen sector value chain of all VFX content in the UK, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Production	12,780	14,470	14,430	15,130
	Distribution	810	1,150	1,410	1,610
	Cinema exhibition	930	1,060	1,730	1,680
	Television broadcast	170	250	290	300
	Video platforms <sup>†</sup>	350	380	470	500
	<b>Total</b>	<b>15,040</b>	<b>17,310</b>	<b>18,330</b>	<b>19,220</b>
GVA (£m)	Production	657.5	753.2	778.7	812.3
	Distribution	157.2	214.1	279.2	291.2
	Cinema exhibition	45.0	52.2	92.5	92.7
	Television broadcast	17.3	18.6	18.7	23.0
	Video platforms <sup>†</sup>	17.5	21.3	28.5	33.1
	<b>Total</b>	<b>894.5</b>	<b>1,059.4</b>	<b>1,197.6</b>	<b>1,252.4</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Ofcom, Omdia, ABS, public financial reports, Official Charts Company, BASE, ASHE, survey of VFX companies and D&B

Notes:

<sup>†</sup> Includes physical video (ie DVD sales and rentals) and digital video platforms

Figures may not sum to totals due to rounding

## 17.2. Overall economic contribution

In Table 118 the value of the spillover impacts generated by the production of VFX content for film and television is added to the total economic impact of VFX content across the value chain to estimate the overall economic contribution of all VFX content in the UK – though it should be noted that this excludes any spillover impacts associated with VFX for commercials and other video production. In 2019, all VFX content in the UK generated 27,430 FTEs and £1.68 billion in GVA.

**Table 118****Overall economic contribution (including spillover impacts†) of all VFX content in the UK, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Value chain impact	15,040	17,310	18,330	19,220
	Spillover impacts†	3,840	5,190	7,460	8,210
	<b>Total</b>	<b>18,880</b>	<b>22,500</b>	<b>25,790</b>	<b>27,430</b>
GVA (£m)	Value chain impact	894.5	1,059.4	1,197.6	1,252.4
	Spillover impacts†	181.1	253.7	377.8	429.2
	<b>Total</b>	<b>1,075.6</b>	<b>1,313.1</b>	<b>1,575.4</b>	<b>1,681.5</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Ofcom, Omdia, ABS, public financial reports, Official Charts Company, BASE, ASHE and survey of VFX companies

Notes:

† Only includes spillover impacts associated with VFX content incorporated in film and television production supported by the tax reliefs; excludes any spillover impacts associated with VFX for commercials and other video production

Figures may not sum to totals due to rounding

# APPENDIX 3

Economic contribution methodology

# 188

## 18.1. Direct impact

Direct employment, compensation of employment (CoE) and gross value added (GVA) were estimated using a variety of different methods as outlined in the sub-sections and tables below. Data points for 2019 have been used to illustrate certain methodology calculations.

### 18.1.1. Film sector

**Table 119**  
**Film sector methodology summary**

Production	<ul style="list-style-type: none"> <li>• Production expenditures sourced from the BFI</li> <li>• Employment, CoE and GVA estimated based on the employment, CoE and GVA ratios in Job Creation Model               <ul style="list-style-type: none"> <li>• Inward investment films: 10.6 FTEs per million pounds, £0.44m CoE per million pounds, £0.53m GVA per million pounds</li> <li>• UK domestic and co-production films: 12.2 FTEs per £m, £0.47m CoE per £m, £0.63m GVA per £m</li> </ul> </li> </ul>
Distribution	<ul style="list-style-type: none"> <li>• Historical average of UK films' share of UK box office (43.7%) multiplied by total employment, CoE and GVA</li> <li>• Total FTEs in <i>SIC 59.13/1</i> (5,020) = total employment in <i>SIC 59.13/1</i> (5,320) x FTE adjustment factor (0.944)<sup>240</sup></li> <li>• FTEs (2,190) = box office share (43.7%) x total FTEs in <i>SIC 59.13/1</i> (5,020)</li> <li>• CoE (£159.1m) = box office share (43.7%) x total CoE in <i>SIC 59.13/1</i> (£364m)</li> <li>• GVA (£1,387.5) = box office share (43.7%) x total GVA in <i>SIC 59.13/3</i> (£3,175m)</li> </ul>
Cinema exhibition	<ul style="list-style-type: none"> <li>• The box office and box office share of UK films were obtained from the BFI</li> <li>• UK films' share of UK box office in 2019 (47.6%) multiplied by total employment, CoE and GVA</li> <li>• Total FTEs in <i>SIC 59.14</i> (12,976) = total employment in <i>SIC 59.14</i> (20,731) x FTE adjustment factor (0.626)</li> <li>• FTEs (6,180) = box office share (47.6%) x total FTEs in <i>SIC 59.14</i> (12,976)</li> <li>• CoE (£149.0m) = box office share (47.6%) x total CoE in <i>SIC 59.14</i> (£313m)</li> <li>• GVA (£346.5) = box office share (47.6%) x total GVA in <i>SIC 59.14</i> (£728m)</li> </ul>

<sup>240</sup> The FTE adjustment factor was derived by examining the distribution of full-time and part-time employment in a given SIC (as reported in BRES) and then assigning a weight of 1.0 FTE to each full-time employee and 0.5 FTE to each part-time employee. The ratio of the estimated number of FTEs to the total number of employees represents the FTE adjustment factor

**Table 119**  
**Film sector methodology summary (continued)**

TV broadcast	<ul style="list-style-type: none"> <li>• UK films' value on UK television was sourced from the BFI</li> <li>• CoE and GVA estimated using ratios of CoE-to-turnover and GVA-to-turnover for SIC 60.2</li> <li>• CoE (£11.8m) = attributable revenue (£118m) x CoE ratio (0.10) for SIC 60.2</li> <li>• GVA (£21.2m) = attributable revenue (£118m) x GVA ratio (0.18) for SIC 60.2</li> <li>• Employment estimated by dividing CoE by average FTE cost of £55,994</li> <li>• Average FTE cost £47,736 = annualised median weekly salary (£918) x 52 x social security factor 1.173</li> <li>• FTEs (210) = CoE (£11.8m) ÷ average FTE cost (£55,994)</li> </ul>
Physical video	<ul style="list-style-type: none"> <li>• UK films' value in the UK physical video market (sales and rentals) was sourced from the BFI</li> <li>• ABS data for SIC 47, <i>Retail trade, except of motor vehicles and motorcycles</i> were used to derive CoE-to-turnover and GVA-to-turnover ratios</li> <li>• The CoE and GVA ratios were multiplied by the attributable physical video revenue for UK films to estimate the attributable CoE and GVA</li> <li>• CoE (£18.1m) = CoE ratio (0.123) x attributable physical video revenue (£147m)</li> <li>• GVA (£31.8m) = GVA ratio (0.216) x attributable physical video revenue (£147m)</li> <li>• Annual Survey of Hours and Earnings (ASHE) data were used to derive the average FTE cost (£24,190) for SIC 47</li> <li>• FTEs (750) = CoE (£18.1m) ÷ average FTE cost (£24,190)</li> </ul>
Digital video	<ul style="list-style-type: none"> <li>• UK films' value in the UK digital video market was sourced from the BFI</li> <li>• Public financial information for Amazon's video operations in the UK was used to ascertain CoE-to-turnover and GVA-to-turnover ratios</li> <li>• CoE (£8.3m) = CoE ratio (0.033) x attributable revenue (£250m)</li> <li>• GVA (£30.3m) = GVA ratio (0.121) x attributable revenue (£250m)</li> <li>• Public financial information for Amazon's video operations in the UK was used to derive an employment-to-turnover ratio</li> <li>• FTEs (80) = employment ratio (0.32 FTEs per £m) x attributable revenue (£250m)</li> </ul>

## 18.1.2. High-end television sector

**Table 120**  
**High-end television sector methodology summary**

Production	<ul style="list-style-type: none"> <li>• Production expenditures sourced from the BFI</li> <li>• Employment, CoE and GVA estimated based on the employment, CoE and GVA ratios in Job Creation Model (11.9 FTEs per £m, £0.49m CoE per £m, £0.58m GVA per £m)</li> </ul>
Television broadcast	<ul style="list-style-type: none"> <li>• The BFI conducted an analysis of HETV titles to determine their share of television viewing</li> <li>• This audience share was multiplied by overall television industry revenue (as reported by Ofcom) to ascertain the share of industry revenue or 'economic share' of HETR</li> <li>• Attributable revenue (£1,706.7m) = economic share (12.9%) x total television sector revenue (£13,230m)</li> <li>• CoE and GVA estimated using ratios of CoE-to-turnover and GVA-to-turnover for SIC 60.2</li> <li>• CoE (£170.7m) = attributable revenue (£1,706.7m) x CoE ratio (0.10)</li> <li>• GVA (£307.2m) = attributable revenue (£1,706.7m) x GVA ratio (0.18)</li> <li>• Employment estimated by dividing CoE by average FTE cost of £55,994</li> <li>• Average FTE cost £47,736 = annualised median weekly salary (£918) x 52 x social security factor 1.173</li> <li>• FTEs (3,050) = CoE (£170.7m) ÷ average FTE cost (£55,994)</li> </ul>
Distribution	<ul style="list-style-type: none"> <li>• The economic share was adjusted to account for genres of television programming not typically subject to audiovisual distribution</li> <li>• This adjusted economic share was multiplied by the total CoE and GVA reported in the ABS in SIC 59.13/3, <i>Television programme distribution activities</i> to estimate the CoE and GVA generated by HETV</li> <li>• CoE (£33.8m) = adjusted economic share (21.3%) x CoE in SIC 59.13/3 (£159m)</li> <li>• GVA (£167.7) = adjusted economic share (21.3%) x GVA in SIC 59.13/3 (£788m)</li> <li>• Adjusted economic share was multiplied by the total employment in SIC 59.13/3 – as per Inter-Departmental Business Register (IDBR) – to estimate the employment generated by HETV. Total employment was converted to FTEs based on FTE conversion ratio</li> <li>• FTEs (340) = adjusted economic share (21.3%) x employment in SIC 59.13/3 (1,736) x FTE conversion ratio (0.92)</li> </ul>

**Table 120**  
**High-end television sector methodology summary (continued)**

Physical video	<ul style="list-style-type: none"> <li>• The economic share (12.9%) was adjusted to account for genres of television programming not typically prominent in the physical video market and resulted in an adjusted economic share of 39.4%</li> <li>• Annual Business Survey (ABS) data for <i>SIC 47, Retail trade, except of motor vehicles and motorcycles</i> were used to derive CoE-to-turnover and GVA-to-turnover ratios</li> <li>• The CoE and GVA ratios were multiplied by the attributable physical video revenue to estimate the attributable CoE and GVA</li> <li>• CoE (£6.7m) = CoE ratio (0.123) x attributable physical video revenue (£54.7m)</li> <li>• GVA (£11.8m) = GVA ratio (0.216) x attributable physical video revenue (£54.7m)</li> <li>• ASHE data were used to derive the average FTE cost (£24,190) for <i>SIC 47</i></li> <li>• FTEs (280) = CoE (£6.7m) ÷ average FTE cost (£24,190)</li> </ul>
Digital video	<ul style="list-style-type: none"> <li>• The economic share (12.9%) was adjusted to account for genres of television programming not typically prominent in the digital video market and resulted in an adjusted economic share of 39.4%</li> <li>• This adjusted economic share was multiplied by the total value of UK digital video market to estimate the digital video revenue attributable to HETV</li> <li>• Public financial information for Amazon’s video operations in the UK was used to ascertain CoE-to-turnover and GVA-to-turnover ratios</li> <li>• CoE (£28.1m) = CoE ratio (0.033) x attributable revenue (£852.9m)</li> <li>• GVA (£103.2m) = GVA ratio (0.121) x attributable revenue (£852.9m)</li> <li>• Public financial information for Amazon’s video operations in the UK was used to derive an employment-to-turnover ratio.</li> <li>• FTEs (270) = employment ratio (0.32 FTEs per £m) x attributable revenue (£852.9m)</li> </ul>

### 18.1.3. Video games sector

**Table 121**

**Video games sector methodology summary**

Development	<ul style="list-style-type: none"><li>• A list of video games companies was obtained from the database underpinning Ukie's UK Games Map</li><li>• This list of companies was shared with Ortus Economic Research, which sourced and assigned employment and turnover data for a sample of companies for 2016</li><li>• These employment and turnover data were validated against other sources (for example, Companies House accounts, direct interviews with video games companies) and, in some cases, were amended</li><li>• For 2017 to 2019, Ukie, Olsberg SPI and Nordicity researched or modelled employment levels for each company</li><li>• Companies without employment data were assumed to have either one or two employees</li><li>• Data from Companies House were also used to estimate GVA for large companies</li><li>• For small companies (and companies with no public GVA data), the GVA per employee in <i>SIC 62, Computer programming, consultancy and related activities</i> (adjusted for regional differences in GVA per employee) was used to impute GVA</li><li>• The wage-to-GVA ratio implied by the results of Nordicity's survey of video games companies for the Entertainment Software Association of Canada (ESAC) was used to estimate CoE</li><li>• The turnover-to-GVA ratio implied by the results of Nordicity's survey of video games companies for the ESAC was used to estimate total turnover in the database behind Ukie's UK Games Map; for 2017-2019, the turnover-to-GVA for <i>SIC 62.01/1, Ready-made interactive leisure and entertainment software development</i> (as per the UK ABS published by ONS) was used to convert GVA to turnover</li></ul>
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**Table 121**  
**Video games sector methodology summary (continued)**

<p>Publishing</p>	<ul style="list-style-type: none"> <li>• A list of video games companies was obtained from the database underpinning Ukie’s UK Games Map</li> <li>• This list of companies was shared with Ortus Economic Research, which sourced and assigned employment and turnover data for a sample of companies for 2016</li> <li>• For 2017 to 2019, Ukie, Olsberg SPI and Nordicity researched or modelled employment levels for each company</li> <li>• These employment and turnover data were validated against other sources (for example, Companies House accounts, direct interviews with video games companies) and, in some cases, were amended</li> <li>• Companies without employment data were assumed to have either one or two employees</li> <li>• Data from Companies House were also used to estimate GVA for large companies</li> <li>• For small companies (and companies with no public GVA data), the GVA per employee in SIC 58.21, <i>Publishing of computer games</i>, (adjusted for regional differences in GVA per employee) was used to impute GVA</li> <li>• The wage-to-GVA ratio as per ABS for SIC 58.21, <i>Publishing of computer games</i> was used to estimate CoE</li> </ul>
<p>Consumption (ie digital and physical sales)</p>	<ul style="list-style-type: none"> <li>• Consumer spending data were obtained from Ukie (and originally sourced from GfK, Kantar World Panel and Superdata)</li> <li>• Ukie conducted a title review to determine the market share held by UK-made titles in the physical and digital markets</li> <li>• Data from the ABS for SIC 47.63, <i>Retail sale of music and video recordings in specialised stores</i> were used to determine the ratios of CoE-to-turnover, GVA-to-turnover and employment-to-turnover ratios</li> <li>• These ratios were multiplied by the estimated consumer spending on physical video games (UK-made and non-UK) to estimate CoE, GVA and employment</li> <li>• Data from the ABS for SIC 63.11, <i>Data processing, hosting and related</i> were used to determine the ratios of CoE-, GVA- and employment-to-turnover ratios</li> <li>• These ratios were multiplied by the estimated consumer spending on digital video games (UK-made and non-UK) to estimate CoE, GVA and employment</li> <li>• For both physical and digital markets, the UK development expenditure accounted for by VGTR projects was used to apportion the economic contribution of consumption (ie digital and physical sales) between VGTR and non-VGTR titles</li> </ul>

## 18.1.4. Animation programme sector

**Table 122**  
**Animation programme sector methodology summary**

Production	<ul style="list-style-type: none"> <li>• Production expenditures for ATR were sourced from the BFI</li> <li>• A survey of animation companies (conducted in 2017) was used to obtain data to estimate the CoE ratio (0.575)</li> <li>• The estimate of the operating-surplus ratio for VFX companies derived for the Job Creation Model (0.107) was combined with the CoE ratio (0.575) to arrive at a GVA ratio of 0.682 for ATR</li> <li>• The median salary of £37,160 from the survey of animation companies was multiplied by 1.138 to convert it to a median FTE cost of £42,280; the annual average change in hourly earnings was used to derive median FTE costs for subsequent years (2019: £44,686)</li> <li>• FTEs estimated by dividing CoE by the average FTE cost</li> </ul>
Television broadcast	<ul style="list-style-type: none"> <li>• The BFI conducted an analysis of ATR titles to determine their share of television viewing</li> <li>• This audience share was multiplied by overall television industry revenue (as reported by Ofcom) to ascertain the share of industry revenue or 'economic share' of ATR</li> <li>• Attributable revenue (£238.1m) = economic share (1.80%) x total television sector revenue (£13,230m)</li> <li>• CoE and GVA estimated using ratios of CoE-to-turnover and GVA-to-turnover for <i>SIC 60.2, Television programming and broadcasting activities</i></li> <li>• CoE (£23.8m) = attributable revenue (£238.1m) x CoE ratio (0.10)</li> <li>• GVA (£42.9m) = attributable revenue (£238.1m) x GVA ratio (0.18)</li> <li>• Average FTE cost £55,994 = annualised median weekly salary (£918) x 52 x social security factor 1.173 FTEs (430) = CoE (£23.8m) ÷ average FTE cost (£55,994)</li> </ul>
Distribution	<ul style="list-style-type: none"> <li>• The economic share derived for the broadcast of ATR programming was adjusted to account for genres of television programming not typically subject to audiovisual distribution</li> <li>• This adjusted economic share (2.97%) was multiplied by the total turnover in <i>SIC 59.13/3, Television programme distribution activities</i> (£2,275m), to estimate the distribution revenue attributable to ATR programming (£65.6m)</li> <li>• CoE (£4.7m) = adjusted economic share (2.97%) x CoE in <i>SIC 59.13/3</i> (£159m)</li> <li>• GVA (£23.4m) = adjusted economic share (2.97%) x GVA in <i>SIC 59.13/3</i> (£788m)</li> </ul>

**Table 122**  
**Animation programme sector methodology summary (continued)**

<p>Distribution (continued)</p>	<ul style="list-style-type: none"> <li>Adjusted economic share was multiplied by the total employment in SIC 59.13/3 (as per IDBR) to estimate the employment generated by ATR content; total employment was converted to FTEs based on FTE conversion ratio</li> <li>FTEs (50) = adjusted economic share (2.97%) x employment in SIC 59.13/3 (1,736) x FTE conversion ratio (0.92)</li> </ul>
<p>Physical video</p>	<ul style="list-style-type: none"> <li>The economic share (1.80%) was adjusted to account for genres of television programming not typically prominent in the physical video market and resulted in an adjusted economic share of 6.0%</li> <li>ABS data for SIC 47, <i>Retail trade, except of motor vehicles and motorcycles</i> were used to derive CoE-to-turnover and GVA-to-turnover ratios</li> <li>The CoE and GVA ratios were multiplied by the attributable physical video revenue to estimate the attributable CoE and GVA</li> <li>CoE (£2.4m) = CoE ratio (0.123) x attributable physical video revenue (£19.7m)</li> <li>GVA (£4.2m) = GVA ratio (0.216) x attributable physical video revenue (£19.7m)</li> <li>ASHE data were used to derive the average FTE cost (£24,190) for SIC 47</li> <li>FTEs (100) = CoE (£2.4m) ÷ average FTE cost (£24,190)</li> </ul>
<p>Digital video</p>	<ul style="list-style-type: none"> <li>The economic share (1.80%) was adjusted to account for genres of television programming not typically prominent in the digital video market and resulted in an adjusted economic share of 6%</li> <li>This adjusted economic share was multiplied by the total value of UK digital video market to estimate the digital video revenue attributable to ATR</li> <li>Public financial information for Amazon's video operations in the UK was used to ascertain CoE- and GVA-to-turnover ratios</li> <li>CoE (£4.3m) = CoE ratio (0.033) x attributable revenue (£128.9m)</li> <li>GVA (£15.6m) = GVA ratio (0.121) x attributable revenue (£128.9m)</li> <li>Public financial information for Amazon's video operations in the UK was used to derive an employment-to-turnover ratio</li> <li>FTEs (40) = employment ratio (0.32 FTEs per £m) x attributable revenue (£128.9m)</li> </ul>

## 18.1.5. Children's television sector

**Table 123**

### Children's television sector methodology summary

Production	<ul style="list-style-type: none"> <li>• Production expenditures sourced from the BFI</li> <li>• Employment, CoE and GVA estimated based on the employment, CoE and GVA ratios in Job Creation Model (11.9 FTEs per £m, £0.49m CoE per £m, £0.59m GVA per £m)</li> </ul>
TV broadcast	<ul style="list-style-type: none"> <li>• The BFI conducted an analysis of CTR titles to determine their share of television viewing</li> <li>• This audience share was multiplied by overall television industry revenue (as reported by Ofcom) to ascertain the share of industry revenue or 'economic share' of CTR</li> <li>• Attributable revenue (£224.9m) = economic share (1.70%) x total television sector revenue (£13,230m)</li> <li>• CoE and GVA estimated using ratios of CoE- and GVA-to-turnover for <i>SIC 60.2, Television programming and broadcasting activities</i></li> <li>• CoE (£22.5m) = attributable revenue (£224.1m) x CoE ratio (0.10)</li> <li>• GVA (£40.5m) = attributable revenue (£224.1m) x GVA ratio (0.18)</li> <li>• Average FTE cost £55,994 = annualised median weekly salary (£918) x 52 x social security factor 1.173</li> <li>• FTEs (400) = CoE (£22.5m) ÷ average FTE cost (£55,994)</li> </ul>
Distribution	<ul style="list-style-type: none"> <li>• The economic share derived for the broadcast of CTR programming was adjusted to account for genres of television programming not typically subject to audiovisual distribution</li> <li>• This adjusted economic share (2.81%) was multiplied by the total turnover in <i>SIC 59.13/3, Television programme distribution activities</i> (£2,275m), to estimate the distribution revenue attributable to ATR programming (£65.6m)</li> <li>• CoE (£4.5m) = adjusted economic share (2.81%) x CoE in <i>SIC 59.13/3</i> (£159m)</li> <li>• GVA (£22.1m) = adjusted economic share (2.81%) x GVA in <i>SIC 59.13/3</i> (£788m)</li> <li>• Adjusted economic share was multiplied by the total employment in <i>SIC 59.13/3</i> (as per IDBR) to estimate the employment generated by ATR content; total employment was converted to FTEs based on FTE conversion ratio</li> <li>• FTEs (50) = adjusted economic share (2.81%) x employment in <i>SIC 59.13/3</i> (1,736) x FTE conversion ratio (0.92)</li> </ul>

**Table 123**  
**Children's television sector methodology summary (continued)**

Physical video	<ul style="list-style-type: none"> <li>• The economic share (1.70%) was adjusted to account for genres of television programming not typically prominent in the physical video market and resulted in an adjusted economic share of 5.6%</li> <li>• ABS data for <i>SIC 47, Retail trade, except of motor vehicles and motorcycles</i> were used to derive CoE-to-turnover and GVA-to-turnover ratios</li> <li>• The CoE and GVA ratios were multiplied by the attributable physical video revenue to estimate the attributable CoE and GVA</li> <li>• CoE (£2.3m) = CoE ratio (0.123) x attributable physical video revenue (£18.7m)</li> <li>• GVA (£4.0m) = GVA ratio (0.216) x attributable physical video revenue (£18.7m)</li> <li>• ASHE data were used to derive the average FTE cost (£24,190) for <i>SIC 47</i></li> <li>• FTEs (90) = CoE (£2.3m) ÷ average FTE cost (£24,190)</li> </ul>
Digital video	<ul style="list-style-type: none"> <li>• The economic share (1.70%) was adjusted to account for genres of television programming not typically prominent in the digital video market and resulted in an adjusted economic share of 5.6%</li> <li>• This adjusted economic share was multiplied by the total value of UK digital video market to estimate the digital video revenue attributable to CTR</li> <li>• Public financial information for Amazon's video operations in the UK was used to ascertain CoE-to-turnover and GVA-to-turnover ratios</li> <li>• CoE (£4.0m) = CoE ratio (0.033) x attributable revenue (£121.7m)</li> <li>• GVA (£14.7m) = GVA ratio (0.121) x attributable revenue (£121.7m)</li> <li>• Public financial information for Amazon's video operations in the UK was used to derive an employment-to-turnover ratio</li> <li>• FTEs (40) = employment ratio (0.32 FTEs per £m) x attributable revenue (£121.7m)</li> </ul>
General	<ul style="list-style-type: none"> <li>• For parts of the value chain with retail sales, VAT was estimated at 17% of gross sales (inclusive of VAT)</li> <li>• Income Tax, NIC, Corporation Tax and Council Tax were estimated by modelling the average level of taxation per pound of GVA that would be generated by an employee receiving the average salary of the particular sectoral area. For example, for television broadcast, the average annual salary (as per ASHE) in <i>SIC 60.2, Television programming and broadcasting activities</i> was used</li> </ul>

## 18.1.6. VFX sector

**Table 124**  
**VFX sector methodology summary**

<p>Production</p>	<ul style="list-style-type: none"> <li>• A survey of VFX companies was administered to obtain data on the level and types of VFX production and company turnover</li> <li>• The survey data were supplemented by data for VFX companies identified through research in LinkedIn</li> <li>• For the sample of VFX companies identified through the LinkedIn research, employment data were sourced from D&amp;B Hoovers</li> <li>• CoE and GVA were estimated based on the CoE and GVA ratios derived in the Job Creation Model. These ratios were established using data from the UK Screen Alliance annual workforce survey</li> <li>• Employment was estimated by dividing CoE by the average FTE cost for the VFX sector, derived from UK Screen Alliance annual workforce survey</li> </ul> <p>Film and television:</p> <ul style="list-style-type: none"> <li>• CoE (£265.0m) = CoE ratio for VFX (0.729) x VFX expenditures (£363.5m)</li> <li>• GVA (£303.9m) = GVA ratio for VFX (0.836) x VFX expenditures (£363.5m)</li> <li>• Employment (5,470 FTEs) = CoE (£265.0m) ÷ average FTE cost (£48,500)</li> </ul> <p>All VFX (including commercials and other production):</p> <ul style="list-style-type: none"> <li>• CoE (£517.6m) = CoE ratio for VFX (0.729) x VFX expenditures (£710.0m)</li> <li>• GVA (£593.6m) = GVA ratio for VFX (0.836) x VFX expenditures (£710.0m)</li> <li>• Employment (10,680 FTEs) = CoE (£517.6m) ÷ average FTE cost (£48,500)</li> </ul>
<p>Television broadcast / distribution / physical video / digital</p>	<ul style="list-style-type: none"> <li>• The survey data were used to estimate the portion of total expenditures under FTR, HETR, ATR and CTR associated with VFX. These represented the 'VFX shares'</li> <li>• The VFX shares were multiplied by the total economic contributions of FTR, HETR, ATR and CTR, respectively, to television broadcast, distribution, physical video and digital video markets to apportion part of the value chain impacts in each case to VFX (as opposed to live action production)</li> </ul>

## 18.2. Indirect and induced impacts (multiplier effects)

The multiplier effects include the incremental economic activity (ie income and employment) generated in the supply chains for each part of the screen value chain, as well as the effects across the wider UK economy that arise from additional household spending.

For each part of the value chain, the indirect and induced impacts were estimated using Nordicity's MyEIA Model. This model utilises the input-output (I-O) tables published by ONS, along with other economic data (for example, median wages) to estimate how increased purchases of goods and services translate into incremental employment, CoE and GVA. The MyEIA Model also provides estimates of induced impacts.

### 18.2.1. Indirect impacts

After netting out CoE and other components of GVA from the total output in each part of the value chain, an estimate of each part's total spending on purchases of goods and services from other industries (ie input purchases) was developed.

Data from production budgets, ABS and other industry studies were used to prepare a breakdown of these input purchases into industry categories that correspond with ONS input-output (I-O) tables.

The profile of input purchases for each part of the value chain was then entered into Nordicity's MyEIA Model as an increase in output in each of these supplier industries (ie an output shock). These industry-by-industry output shocks provided the basis upon which the MyEIA Model estimated the incremental employment, CoE and GVA that would be generated in these supplier industries.

On the basis of the ONS I-O tables, the MyEIA Model also traced each supplier industry's purchase of inputs from other industries and the incremental employment, CoE and GVA associated with those follow-on input purchases.

## 18.2.2. Induced impacts

Nordicity's MyEIA Model also provides estimates of induced impacts; however, these estimates are not based directly on the ONS I-O tables. Instead, they are based on existing observations of the average ratio of Type II and Type I multipliers in the UK economy.<sup>241</sup>

For example, in *The Economic Impact of the UK Film Industry* (2012), Oxford Economics reported that the induced-impact multiplier was 1.25.<sup>242</sup> This means that the ratio of the Type II to Type I multipliers for the UK economy was 1.25.

This is corroborated by the Type I and Type II multipliers published by the Scottish Government for the Scottish economy. For the Scottish economy, the Type II employment multipliers are on average equal to 1.20 times the Type I multipliers.<sup>243</sup> The slightly lower induced impact multiplier for Scotland is understandable, given the likelihood that some portion of household spending will leak from the Scottish economy into the economies of England, Wales or Northern Ireland.

Based on these observations, Nordicity's MyEIA Model used an induced impact ratio of 1.25 and thereby assumed that induced impacts will add 25% in CoE to the sum of the estimates of direct and indirect CoE generated by the MyEIA Model.

This additional CoE was then converted to GVA based on the overall ratio of GVA to costs of employment (as per the input-output tables). The additional CoE was converted to employment impact (FTEs) based on the median full-time wage across the UK economy.

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**241.** In the field of economic impact analysis, the Type I multiplier refers to the ratio of the sum of direct and indirect impacts to direct impacts. It can be derived through the analysis of input-output tables. The Type II multiplier refers to the ratio of the sum of direct, indirect and induced impacts to the direct impact. It can also be estimated through an analysis of input and output tables, if those tables also take into consideration the additional economic effects associated with the re-spending of household income within a domestic economy. The construction of the Type I and Type II multipliers implies that the ratio of these multipliers provides an indication of the induced impact ratio that can be utilised for economic impact analysis

**242.** *The Economic Impact of the UK Film Industry* (2012). Ibid

**243.** *Input-Output Tables 1998-2013 – Leontief Type 2 Table*. Scottish Government, 2016. Accessible at: <https://www.webarchive.org.uk/wayback/archive/20161003212045/http://www.gov.scot/Topics/Statistics/Browse/Economy/Input-Output/Downloads/IO1998-2013L2>



## 18.3. Total economic impact

The total economic impact was calculated as equal to the sum of direct, indirect and induced impacts.

## 18.4. Additionality and return on investment

### 18.4.1. Gross additionality

#### ***FTR, HETR, ATR and CTR***

The additionality rate for the production sub-sector for FTR, HETR, ATR and CTR was established through an online survey of producers. This survey was sent to all producers who received final certification for one of the various film and/or TV tax reliefs between in 2017 and 2019. To determine the rate of additionality, producers were asked the following questions:

1. In terms of your decision to produce in the UK, please rank the following factors in order of importance (from 1 to 7 in order of importance, with 1 as the most important).
  - i. Quality and availability of suitably skilled cast and crew
  - ii. Overall cost base of the UK production market
  - iii. Exchange rate
  - iv. Quality and availability of facilities and infrastructure
  - v. Tax Relief
  - vi. Story setting
  - vii. Availability and accessibility of relevant locations
  
2. Taking into account all of the factors outlined above that influenced your decision to undertake production in the UK, please answer the following:  
On a scale of 0-10, please rate the importance of Film Tax Relief in your decision to produce or co-produce in the UK (where 0 indicates it was not at all a factor and 10 indicates that it was the only factor)?
  
3. If Film Tax Relief had not been available to you, how much lower do think your project's expenditures in the UK would have been (where 0% indicates the same expenditures, and 100% indicates that no part of the project would have been produced in the UK)?

The results of these survey questions (particularly Question 3) were analysed with reference to the volume of production spend in the UK originating domestically (including co-productions), and from inward investment, to derive gross additionality rates.

#### ***VGTR***

A slightly different survey questionnaire was circulated to companies that applied for VGTR between 2017 and 2019.

## 18.4.2. About the survey

As noted in the previous sub-section, the gross rates of additionality for each tax relief were derived from data collected through a survey of tax relief recipients.

### **Response rates**

When measured in terms of the monetary value of production spending, the response rates were relatively high.

For example, in the case of FTR, nearly 90% of production spending is accounted for by inward investment production. The survey received responses from three major inward investors – and while the spend accounted for by these is not known, the fact that there was no variability in their responses (ie they all indicated a 100% additionality) suggests that the survey provides a representative sample for the inward investment producers and, thereby, for nearly 90% of FTR production and over 70% of HETR production.

Similarly, the 34 companies responding to the survey for Animation Tax Relief accounted for a combined £159 million in tax-relief-supported production revenue between 2017-2019. That represented 66% of the total value of production spending supported by ATR (£238.8m) over that three year period.

The following table provides a breakdown of the gross additionality rates for inward investment and domestic production for FTR and HETR. For the other tax reliefs, gross additionality was calculated strictly on the basis of the survey response without any weighting for inward investment production spending vs domestic production spending. This approach was taken for several reasons. For these other tax reliefs, data on inward investment production was not available; inward investment production was a relatively smaller share of total production (compared to FTR and HETR); or there was no way to clearly identify inward investment producers, developers or projects in the survey data.

**Table 125**  
**Gross rates of additionality from survey research, inward investment vs domestic producers**

		<b>FTR</b>	<b>HETR</b>
Inward investment	Mean reported additionality	100%	100%
	Production spend weighting	86%	72%
Domestic	Mean reported additionality	46%	43%
	Production spend weighting	14%	28%
<b>Spend-weighted mean additionality</b>		<b>92%</b>	<b>84%</b>

Source: Olsberg•SPI/Nordicity analysis based on data from survey of tax relief recipients (2021)

### **Respondent bias**

The survey and analysis of additionality was based on self-reported data which can be prone to respondent bias. In this case, this respondent bias could mean that the rates of additionality were overstated. To address the risk of respondent bias, the survey included questions preceding the additionality, which listed the various factors that film and TV producers and video game developers consider when locating their production or development work in a particular country (for example, exchange rate, suitability of local labour force, story setting). In fact, survey respondents were asked to rate these various factors. The inclusion of this question would have helped to 'remind' respondents of all these factors beyond the tax relief.

### **18.4.3. Net additionality**

The gross rates of additionality were converted to net rates of additionality by accounting for zero or lower rates of additionality in certain parts of the value chain. No discount was applied to production (FTR, HETR, ATR and CTR), inbound tourism (FTR and HETR) or games development (VGTR). The following discounts were applied to other parts of the value chain:

- Distribution/Publishing 86% to 45%
- Exhibition 86%
- Television broadcast 80% to 95%
- Physical video 90%
- Digital video 95% to 100%
- Digital and physical sales of video games 90%

In some cases (where ranges are provided), the discounts varied based on market share held by domestic production vs inward investment production. In other cases, the discount was varied between different sub-sectors. For example, in the digital platforms market, a 100% discount was applied to FTR, but a 95% discount was applied to HETR to account for the fact that some HETR titles were critical to consumers' overall subscription decisions during the 2017 to 2019 period.

The net (ie 'discounted') additionality rates were applied to the total GVA and total tax impact of each tax relief to estimate its additional GVA. These estimates of additional GVA were compared to estimates of tax relief outlays to calculate the economic return on investment (RoI) of each tax relief.

The following tables illustrate how the additional GVA was derived for each tax relief for 2019.

**Table 126**  
**Derivation of additional GVA, FTR, 2019**

	Total GVA (A) £m	Additionality rate, production (B)	Discount rate C	Net rate of additionality (D=Bx[1-C])	Additional GVA (E=AxD) £m
Production	2,362.3	92%	0%	92%	2,173.3
Distribution	1,831.5	92%	85%	14%	257.5
Exhibition	604.5	92%	85%	14%	85.0
Television broadcast	37.3	92%	95%	5%	1.7
Physical video	43.1	92%	90%	9%	4.0
Digital video	96.9	92%	100%	0%	0.0
Tourism	898.0	92%	0%	92%	826.2
UK brand promotion <sup>244</sup>	1,737.9	92%	100%	0%	0.0
Merchandise	73.5	92%	100%	0%	0.0
<b>Total</b>	<b>7,684.9</b>	-	-	-	<b>3,347.7</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Omdia, ABS, IDBR, BRES, CAA, Comscore, BARB, public financial reports, Official Charts Company, BASE, ASHE, ONS and HM Revenue & Customs (HMRC)

**Table 127**  
**Derivation of additional GVA, HETR, 2019**

	Total GVA (A) £m	Additionality rate, production (B)	Discount rate C	Net rate of additionality (D=Bx[1-C])	Additional GVA (E=AxD) £m
Production	2,450.3	84%	0%	84%	2,058.3
Distribution	326.4	84%	67%	28%	89.8
Television broadcast	541.5	84%	80%	17%	91.0
Physical video	17.0	84%	90%	8%	1.4
Digital video	339.0	84%	95%	4%	14.2
Tourism	502.7	84%	0%	84%	422.3
<b>Total</b>	<b>4,177.0</b>	-	-	-	<b>2,677.0</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, IDBR, BRES, public financial reports, ASHE, ONS and HMRC

<sup>244</sup>. See Section 4.4.3. for explanation

**Table 128**  
**Derivation of additional GVA, ATR, 2019**

	Total GVA (A) £m	Additionality rate, production (B)	Discount rate C	Net rate of additionality (D=Bx[1-C])	Additional GVA (E=AxD) £m
Production	75.7	50%	0%	50%	37.9
Distribution	47.5	50%	49%	26%	12.2
Television broadcast	75.6	50%	80%	10%	7.6
Physical video	5.8	50%	90%	5%	0.3
Digital video	50.0	50%	95%	3%	1.2
Merchandise	30.6	50%	100%	0%	0.0
<b>Total</b>	<b>285.2</b>	-	-	-	<b>59.2</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, IDBR, BRES, public financial reports, ASHE, ONS and HMRC

**Table 129**  
**Derivation of additional GVA, CTR, 2019**

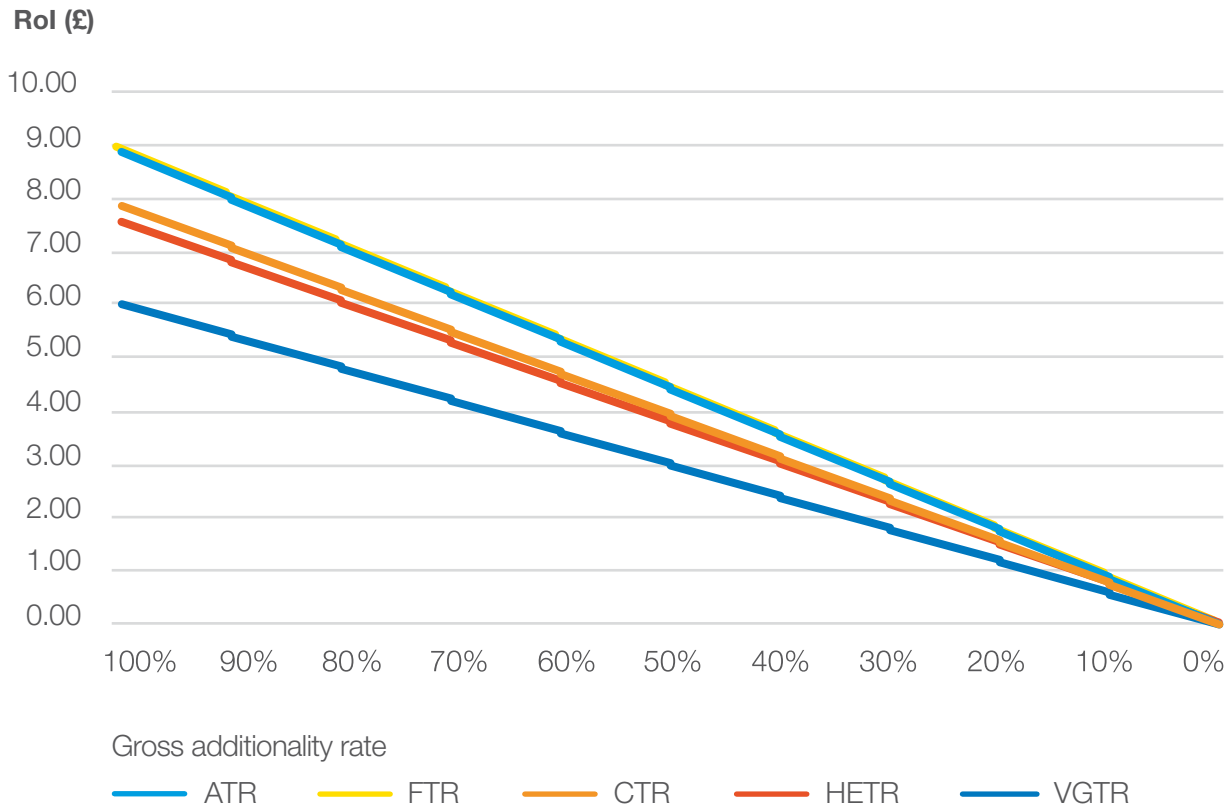
	Total GVA (A) £m	Additionality rate, production (B)	Discount rate C	Net rate of additionality (D=Bx[1-C])	Additional GVA (E=AxD) £m
Production	99.7	40%	0%	40%	39.9
Distribution	40.8	40%	49%	21%	8.4
Television broadcast	71.1	40%	80%	8%	5.7
Physical video	5.4	40%	90%	4%	0.2
Digital video	47.1	40%	95%	2%	0.9
<b>Total</b>	<b>264.1</b>	-	-	-	<b>55.1</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, IDBR, BRES, public financial reports, ASHE, ONS and HMRC

#### 18.4.4. Sensitivity analysis

Given the statistical uncertainty related to the precise rate of gross and thereby net additionality for each tax relief, a sensitivity analysis was conducted to assess how the RoI varied with respect to different levels of gross additionality. The sensitivity analysis shows that even at levels of gross additionality below 50% but above 15%, the tax reliefs deliver RoIs of between £1.00 (VGTR) and £4.50 (FTR and ATR).

**Figure 31**  
**Sensitivity analysis**



Source: Olsberg•SPI/Nordicity analysis based on data from survey of tax relief recipients (2021)  
Note:  
FTR line is obscured by ATR line

## 18.5. Audience analysis and derivation of economic shares

### 18.5.1 Calculation of the economic share in 2016

The economic impact of the television programming supported by tax relief is not confined to the production sub-sectors. When such programming is broadcast on television, it also generates economic value for UK broadcasters.

To estimate the contribution that HETR, ATR and CTR programming made to the UK’s broadcast sector, the audience performance of this programming was used to derive its ‘economic share’. The term ‘economic share’ was used to account for the fact that this exercise arrived at estimates of the share of television broadcast revenue attributable to television programming supported by tax relief and, thereby, the proportion of the television broadcast sector’s employment and GVA attributable to this programming.

Adjustments were also applied to the economic shares for HETR, ATR, CTR and UK-made television animation programmes so that they could also be used to estimate attributable employment and GVA for distribution and video platforms.

To estimate the economic share for 2016, Attentional analysed the audience ratings for a sample of television programmes supported by either HETR, ATR or CTR. This analysis established the audience for each supported television programme airing on commercial television in the UK, which was converted into an estimate of the net advertising revenue (revenue less advertising commissions) which such a programme would achieve.

- For each episode of a television programme, Attentional obtained data on the number of impacts<sup>245</sup> (measured in thousands) in the Adults-16-43, Adults-ABC and Housewives+Children demographic groupings<sup>246</sup>
- The tabulation of the number of impacts for each television programme was based on Attentional's analysis of audience data for the centre break and end break of that television programme. The volume and complexity of the audience data meant that it was not possible to also include the going-in breaks for each television programme. As per standard industry practice, centre breaks were valued at 100%; end breaks were valued at 50% weight
- The total number of impacts in each demographic was multiplied by the cost-per-thousand (CPT) for each demographic for each airing date to estimate the advertising revenue generated by each episode
- The estimated advertising revenue was summed across all episodes and the three demographics to arrive at an estimate of a particular television programme's gross advertising revenue
- The gross advertising revenue was converted to net advertising revenue (ie net of commissions paid to agencies selling airtime on behalf of broadcasters) by multiplying gross advertising by 85%
- The net advertising revenue represented the value to commercial television broadcasters

Revenue estimates were also generated for programmes airing on the BBC, even though they do not generate advertising revenue. This was achieved by matching television programmes on the BBC with their closest commercial television equivalent.

- Television programmes were matched on the basis of their audience levels and broadcast channel. This means that a television programme with an audience of 2 million on BBC1 was matched with a television programme with an audience of approximately 2 million on ITV1. A television programme with an audience of 1 million on BBC2 was matched with a television programme with an audience of approximately 1 million on Channel 4
- The revenue equivalent for the BBC television programme was then derived by scaling (up or down) the revenue performance of the matched commercial television programme, depending on the actual relationship in audience levels between the actual and matched television programmes, while factoring in the number of transmissions and CPT differences between the matched and actual television programme

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**245.** A single impact is equal to one member of the target audience watching one commercial. On this basis, 10 impacts can be achieved by 10 different viewers watching a single commercial, one viewer watching a commercial 10 times, or 5 viewers each watching a commercial twice

**246.** Attentional audience data analysis was based on data from BARB, which excludes Netflix, Amazon Prime Video, and other VoD/SVoD services, but does include certain subscription-based services offered by Sky

The net advertising revenue generated by the television programmes airing on a commercial broadcaster and the derived equivalent revenue for television programmes airing on the BBC were summed to arrive at an estimate of the total attributable television broadcast revenue generated by the sample of television programmes. This estimate for the sample was then grossed-up, based on the sample's share (in terms of the total number of television programmes) of the total population of television programmes supported by either HETR, ATR or CTR between 2014 and 2016 (Table 130).

**Table 130**  
**Derivation of economic shares for television broadcast**

	HETR	ATR	CTR
Total population (A)	125	70	48
Sample size (B)	86	56	42
Gross-up factor (C=A÷B)	1.45	1.25	1.14
Total attributable television broadcast revenue generated by sample (£m) (D)	184.1	33.1	4.9
Total revenue generated by population (£m) (E=DxC)	267.6	41.4	5.6
UK television industry revenue (£m) (F)	6,660	6,660	6,660
<b>Economic share for television broadcast (G=E÷F)</b>	<b>4.2%</b>	<b>0.62%</b>	<b>0.08%</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Attentional and Ofcom

Notes:

A. The total number of television programmes that received tax relief between 2014 and 2016

B. The sample sizes for HETR, ATR and CTR have a margin of error of ±5% (18 times out 20)

C. Equals: A÷B

D. Attentional's estimate of the revenue generated by the sample of programmes for UK broadcasters

E. Equals: DxC

F. See Table 131

G. Equals: E÷F

The denominator for estimated economic share consisted of the television broadcast sector's net advertising revenue and the portion of BBC's income allocated to television operations. The denominator excluded subscription revenue in the television sector, online television revenue and revenue earned from other television services, since these types of revenue were not included in Attentional's estimate of television programme revenue.



**Table 131**  
**Derivation of denominator for economic share calculation, 2016**

	Amount (£m)
Net advertising revenue in UK television broadcast sector <sup>1</sup>	4,123
BBC income allocated to television operations <sup>2</sup>	2,537
<b>Total<sup>3</sup></b>	<b>6,660</b>

Source: Ofcom, *Communications Market Report 2017*, p51 (Figure 2.11)

Notes:

1. Net advertising represents the gross advertising less commissions paid to agencies that sell advertising airtime on behalf of broadcasters
2. Represents the portion of BBC licence fee and other revenue allocated to its television operations. Also includes money allocated to S4C
3. Subscription revenue earned by Sky UK, Virgin Media, BT Television and TalkTalk (£6,392m) has been excluded from the total, since subscription revenue estimates did not form part of Attentional's analysis. Revenue for other television services – including television shopping, sponsorship, interactive, programme sales and S4C's grant from the Department for Digital, Culture, Media & Sport (DCMS) – and online television have also been excluded

## 18.5.2. Calculation of the economic share for 2017 to 2019

To estimate the economic share for 2017, 2018 and 2019, the BFI analysed the audience ratings for HETR, ATR and CTR titles that accessed the tax relief since its introduction. This analysis established the audience for each title airing on television in the UK. The total audience across all titles was then compared to the total viewing minutes in each year to establish the audience and, thereby, economic share of the titles supported by tax relief.

These economic shares were then multiplied by the annual total revenue in the UK television broadcast programming market to generate a monetary estimate of the value of the television content supported by the tax reliefs.

**Table 132**  
**Total revenue in the UK broadcasting sector, 2017-2019 (£m)**

	2017	2018	2019
PSB channels <sup>1</sup>	4,744.7	4,710.5	4,595.7
Commercial multi-channels	2,517.2	2,474.4	2,350.7
Platform operators <sup>2</sup>	6,148.7	6,342.5	6,284.0
<b>Total</b>	<b>13,410.6</b>	<b>13,527.5</b>	<b>13,230.5</b>

Source: Ofcom

Notes:

1. Includes commercial revenue sources and income from household licence fees and grant-in-aid
2. Platform operators includes Sky TV, Virgin Media, BT TV and TalkTalk subscriber revenue (excluding revenue from broadband and telephony), but excludes revenue of digital video platforms (SVoD, VoD and TVoD) and online video advertising revenue from catch-up services

## 18.6. Adjusted economic shares

While the economic shares (derived above) provide a reasonable approximation of HETR, ATR and CTR programming's contribution to television broadcast revenue, adjustments to the economic shares were required so that they could be used to estimate attributable revenue, employment and GVA for the distribution and video platforms (ie DVD sales and rentals, VoD/ SVoD/TVoD) sub-sectors.

### 18.6.1. Distribution

For the distribution sub-sector, the economic share was adjusted to take into account that many genres of broadcast television programming are not typically subject to significant distribution sales. For example, while news and sports programming garner large audience shares on broadcast television, the programming is not typically licensed to other countries or windows in the same manner as fiction programming. This would imply that the economic shares applicable to the distribution sub-sector should be higher than those applicable to the television broadcast sub-sector.

To arrive at the adjusted economic shares, the economic shares of HETR, ATR and CTR programming were expressed as percentages of the aggregate audience share for the television genres more likely to be subject to distribution sales. The audience share of these distribution genres totalled 60.6% in 2019 (Table 133).

**Table 133**  
**Share of total television audience accounted for by distribution genres, 2016-2019**

	2016	2017	2018	2019
Children's	4.9%	4.2%	3.7%	3.1%
Comedy	3.6%	3.8%	3.7%	3.5%
Entertainment	13.9%	15.1%	15.5%	14.8%
Documentaries – science and nature	2.4%	2.6%	2.4%	2.4%
Documentaries – other	10.5%	11.7%	11.8%	12.4%
UK drama	6.7%	6.2%	6.2%	7.1%
UK soaps	4.2%	4.3%	4.6%	4.6%
Drama other	4.8%	5.1%	5.0%	4.4%
Leisure interests	8.2%	8.1%	7.8%	8.3%
<b>Total</b>	<b>59.2%</b>	<b>61.1%</b>	<b>60.7%</b>	<b>60.6%</b>

Source: Ofcom (BARB All individuals 4+)

An illustration of the adjusted economic shares for 2019 applicable to the distribution sub-sector can be found in the following table.

**Table 134**  
**Derivation of adjusted economic shares for distribution sub-sector, 2019**

	HETR	ATR	CTR
Gross economic share (A)	12.9%	1.80%	1.70%
Audience share of distribution genres (B)	60.6%	60.6%	60.6%
<b>Adjusted economic share (C=A÷B)</b>	<b>21.3%</b>	<b>2.97%</b>	<b>2.81%</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB and Ofcom

## 18.6.2. Video platforms

For the video platforms sub-sector, the economic share was also adjusted to take into account the television genres that are more popular on video platforms – ie physical video sales and rentals, digital video (VoD/SVoD/TVoD). According to data published in the BFI *Statistical Yearbook*, the fiction genres account for nearly 97% of sales of feature film DVDs in the UK in 2016.<sup>247</sup> Documentaries and other genres only accounted for 3%. With that in mind, only the fiction genres were defined as video platform genres for this analysis and used to arrive at the adjusted economic shares for HETR, ATR and CTR.

**Table 135**  
**Share of total television audience accounted for by video platform genres, 2016-2019**

	2016	2017	2018	2019
Children's	4.9%	4.2%	3.7%	3.1%
Comedy	3.6%	3.8%	3.7%	3.5%
UK drama	6.7%	6.2%	6.2%	7.1%
UK soaps	4.2%	4.3%	4.6%	4.6%
Drama other	4.8%	5.1%	5.0%	4.4%
UK films	1.0%	1.2%	1.2%	1.2%
Films other	7.5%	7.5%	7.2%	6.3%
<b>Total</b>	<b>32.7%</b>	<b>32.3%</b>	<b>31.6%</b>	<b>30.2%</b>

Source: Ofcom (BARB All individuals 4+)

<sup>247</sup>. *Statistical Yearbook 2017*. The BFI. Accessible at: <https://www2.bfi.org.uk/sites/bfi.org.uk/files/downloads/bfi-statistical-yearbook-2017.pdf>

To arrive at the adjusted economic shares applicable to video platforms, the economic shares of HETR, ATR and CTR programming were expressed as percentages of the aggregate audience share for video platform genres. An illustration of the 2019 adjusted economic shares applicable to video platforms can be found in Table 136.

**Table 136**  
**Derivation of adjusted economic shares for video platform sub-sector**

	HETR	ATR	CTR
Gross economic share (A)	12.9%	1.80%	1.70%
Audience share of distribution genres (B)	30.2%	30.2%	30.2%
<b>Adjusted economic share (C=A÷B)</b>	<b>42.7%</b>	<b>6.0%</b>	<b>5.6%</b>

Source: Olsberg+SPI/Nordicity estimates based on data from the BFI, BARB and Ofcom.

## 18.7. Tax revenue impacts

The tax revenue impacts for each sector and sub-sector were estimated by combining the following approaches.

**Retail VAT:** For parts with retail sales (for example, cinema exhibition, physical video), VAT was estimated by multiplying the gross sales (inclusive of VAT) by 17%.

**Income Tax, National Insurance Contributions (NIC), Corporation Tax, and employees' VAT** were estimated using Nordicity's Tax Impact Model. In general, this model divides GVA into its two main components – employment compensation and operating surplus – and estimates Income Tax, NIC and employees' VAT based on the former and Corporation Tax based on the latter.

- Income Tax, NIC and employees' VAT:** These are estimated by modelling the average level of taxation per £1 of employment compensation that would be generated by an employee receiving the average salary of the particular sector or sub-sector under analysis. For example, for the television broadcast sub-sector, the model estimates the average rate of tax revenue per £1 of employment compensation associated with an employee earning the average annual salary (as per the ONS Annual Survey of Hours and Earnings) in *SIC 60.2, Television programming and broadcasting activities*. Where relevant, the modelling takes into account the lower rates of taxation incurred by self-employed workers and uses a weighted average of the taxation ratio of employed and self-employed workers.
- Corporation Tax:** Data from Companies House, HMRC and ONS were used to establish the ratio of Corporation-Tax-to-operating-surplus in each sector and sub-sector. This was done on the basis of a review of Companies House accounts for leading companies in a sub-sector or by observing the rate for closest two-digit SIC.

The following table summarises the effective tax ratios generated by Nordicity's Tax Impact Model. A more detailed description of the model is found below.

**Table 137**  
**Tax-to-GVA ratio, 2016-2019**

	Sub-sector	2016	2017	2018	2019
Average annual salary (£)	UK economy	28,306	27,700	28,480	29,588
	Production	41,735	35,656	34,351	32,677
	Distribution	50,929	49,780	48,703	48,745
	Cinema exhibition	12,150	9,162	10,384	20,727
	Television broadcasting	50,724	40,149	42,172	47,736
	Physical video	16,904	20,332	20,852	21,871
	Digital video	41,124	43,139	42,988	41,387
	Video games development	44,769	38,007	41,293	41,740
	Video games publishing	47,325	49,119	39,302	38,189
Effective tax ratio for Income Tax, NIC and employee VAT <sup>1</sup>	UK economy	0.32	0.36	0.36	0.36
	Production	0.37	0.38	0.38	0.37
	Distribution	0.44	0.45	0.43	0.42
	Cinema exhibition	0.19	0.11	0.13	0.30
	Television broadcasting	0.41	0.41	0.41	0.42
	Physical video	0.28	0.31	0.31	0.31
	Digital video	0.39	0.42	0.41	0.41
	Video games development	0.40	0.40	0.41	0.41
	Video games publishing	0.42	0.44	0.40	0.40
Corporation tax ratio <sup>2</sup>	UK economy	0.075	0.061	0.065	0.063
	Production	0.00 / 0.060 <sup>3</sup>	0.00 / 0.061 <sup>3</sup>	0.00 / 0.065 <sup>3</sup>	0.00 / 0.063 <sup>3</sup>
	Distribution	0.060	0.061	0.065	0.063
	Cinema exhibition	0.060	0.061	0.065	0.063
	Television broadcasting	0.060	0.061	0.065	0.063
	Physical video	0.060	0.061	0.065	0.063
	Digital video	0.060	0.061	0.065	0.063
	Video games development	0.060	0.061	0.065	0.063
	Video games publishing	0.060	0.061	0.065	0.063

Source: Nordicity estimates based on data from HMRC, ONS and Companies House

Notes:

1. Effective tax ratios multiplied by total employment compensation to estimate impact on Income Tax, NIC and employees' VAT
2. Effective tax ratios multiplied by operating surplus (ie GVA – employment compensation) to estimate impact on Corporation Tax
3. A ratio of 0.00 was used for FTR, HETR and CTR production since this production typically takes place through special purpose vehicles (SPVs) in which tax credits offset any Corporation Tax (if any). A ratio of 0.06 to 0.65 was used for ATR production, since this production often takes place through going-concern entities

**Table 138**  
**Key assumptions of the Tax Impact Model**

Income Tax	<ul style="list-style-type: none"> <li>• The average effective tax rate applicable to employment compensation is based on the statutory tax that an employee earning the average annual salary in the sector or sub-sector under the analysis would have to pay</li> <li>• To estimate the tax revenue generated by indirect and induced impacts, the average annual salary across the UK economy was used</li> <li>• Self-employed workers are assumed to deduct 25% of their income as expenses and thereby pay Income Tax on 75% of their income</li> <li>• No allowances are made for tax credits, pension contributions, salary sacrifice or taxable benefits</li> </ul>
NIC	<ul style="list-style-type: none"> <li>• The average effective NIC rate applicable to employment compensation is based on the statutory NIC rates that an employee or self-employed worker earning the average annual salary in the sector or sub-sector under the analysis would have to pay</li> <li>• To estimate the tax revenue generated by indirect and induced impacts, the average annual salary across the UK economy was used</li> <li>• No allowances are made for tax credits, pension contributions, salary sacrifice or taxable benefits</li> </ul>
VAT	<ul style="list-style-type: none"> <li>• Employees and self-employed workers were assumed to save 6% of gross income and spend 52% of their remaining income on VAT-able consumption</li> <li>• The total value of VAT-able consumption per employee was multiplied by 17% to arrive at estimate of average VAT payments per employee</li> </ul>
Corporation Tax	<ul style="list-style-type: none"> <li>• Production: A review of Companies House filings for the 36 companies in SIC 59.11/1, <i>Motion picture production activities</i> with revenue of £29m or higher in 2016 indicated that the vast majority of these companies were SPVs and did not, in fact, pay any net tax. The vast majority of these companies reported Corporation Tax liabilities that were partially or wholly offset by tax relief. For this reason, an effective tax ratio of 0.00 was used to estimate the direct tax impact of the production sub-sector in the FTR, HETR and CTR sectors. For the ATR sector where the use of SPVs is less common (though not uncommon) the average Corporation Tax ratio (ie Corporation Tax ÷ operating surplus) was applied</li> <li>• The average Corporation Tax was also used to estimate the direct tax impacts in the other screen sectors and sub-sectors</li> <li>• To estimate the Corporation Tax impact generated by indirect and induced impacts, the 'UK economy' (ie economy-wide Corporation Tax ratio) was applied</li> </ul>

# APPENDIX 4

Additional data tables

# 19

## 19.1. Film Tax Relief

The tables below provide additional data on the value chain segments within the UK film sector's total economic impact, as outlined in Section 4.4. – Total economic impact.

**Table 139**  
**Economic contribution of FTR, production, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	21,600	25,050	22,160	21,750
	Indirect	14,140	16,740	14,670	14,620
	Induced	8,920	10,430	9,190	9,090
	<b>Total</b>	<b>44,660</b>	<b>52,220</b>	<b>46,020</b>	<b>45,460</b>
CoE (£m)	Direct	834.8	985.7	916.7	893.5
	Indirect	370.7	445.3	411.1	405.5
	Induced	301.0	357.3	331.5	324.3
	<b>Total</b>	<b>1,506.5</b>	<b>1,788.2</b>	<b>1,659.4</b>	<b>1,623.3</b>
GVA (£m)	Direct	1,031.9	1,210.5	1,129.0	1,095.2
	Indirect	725.4	871.9	804.7	794.2
	Induced	439.9	521.2	484.0	472.9
	<b>Total</b>	<b>2,197.2</b>	<b>2,603.6</b>	<b>2,417.8</b>	<b>2,362.3</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, ABS and ASHE

Note:

Figures may not sum to totals due to rounding



**Table 140**  
**Economic contribution of FTR, distribution, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	1,710	1,980	1,840	2,190
	Indirect	3,780	5,180	4,930	5,550
	Induced	1,390	1,910	1,820	2,050
	<b>Total</b>	<b>6,880</b>	<b>9,070</b>	<b>8,590</b>	<b>9,790</b>
CoE (£m)	Direct	136.4	138.5	140.5	159.1
	Indirect	111.2	154.7	155.1	172.7
	Induced	38.6	53.7	53.8	59.9
	<b>Total</b>	<b>286.2</b>	<b>346.8</b>	<b>349.4</b>	<b>391.6</b>
GVA (£m)	Direct	1,065.1	1,327.1	1,334.1	1,387.5
	Indirect	217.9	303.0	303.8	338.3
	Induced	68.1	94.7	94.9	105.7
	<b>Total</b>	<b>1,351.0</b>	<b>1,724.8</b>	<b>1,732.9</b>	<b>1,831.5</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, IDBR, BRES, Comscore, public financial reports, Official Charts Company, BASE and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 141**  
**Economic contribution of FTR, cinema exhibition, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	4,590	5,030	6,330	6,180
	Indirect	2,370	2,540	3,220	3,270
	Induced	1,070	1,150	1,460	1,480
	<b>Total</b>	<b>8,030</b>	<b>8,720</b>	<b>11,010</b>	<b>10,930</b>
CoE (£m)	Direct	93.7	101.0	135.5	149.0
	Indirect	61.8	69.3	92.5	92.9
	Induced	29.8	32.4	43.3	43.5
	<b>Total</b>	<b>185.3</b>	<b>202.8</b>	<b>271.3</b>	<b>285.3</b>
GVA (£m)	Direct	215.8	237.9	331.0	346.5
	Indirect	119.2	133.5	178.1	178.8
	Induced	54.2	59.1	78.8	79.1
	<b>Total</b>	<b>389.1</b>	<b>430.5</b>	<b>587.9</b>	<b>604.5</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Comscore, IDBR, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 142**  
**Economic contribution of FTR, television broadcast, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	410	300	270	210
	Indirect	310	240	210	190
	Induced	140	110	100	90
	<b>Total</b>	<b>860</b>	<b>650</b>	<b>580</b>	<b>490</b>
CoE (£m)	Direct	19.9	14.2	13.4	11.8
	Indirect	9.1	7.1	6.7	5.9
	Induced	3.7	2.9	2.8	2.4
	<b>Total</b>	<b>32.7</b>	<b>24.2</b>	<b>22.9</b>	<b>20.1</b>
GVA (£m)	Direct	65.2	28.4	20.1	21.2
	Indirect	17.9	14.0	13.2	11.6
	Induced	6.8	5.3	5.0	4.4
	<b>Total</b>	<b>89.8</b>	<b>47.7</b>	<b>38.3</b>	<b>37.3</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 143**  
**Economic contribution of FTR, video platforms, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	1,250	1,070	1,030	830
	Indirect	1,000	800	750	900
	Induced	500	470	480	530
	<b>Total</b>	<b>2,750</b>	<b>2,340</b>	<b>2,260</b>	<b>2,260</b>
CoE (£m)	Direct	31.2	28.2	28.9	26.3
	Indirect	27.3	22.6	21.8	26.1
	Induced	13.7	12.2	12.9	14.4
	<b>Total</b>	<b>72.2</b>	<b>63.0</b>	<b>63.6</b>	<b>66.8</b>
GVA (£m)	Direct	65.2	58.5	63.5	62.0
	Indirect	45.8	42.2	42.1	51.7
	Induced	24.8	22.3	23.6	26.2
	<b>Total</b>	<b>135.8</b>	<b>123.0</b>	<b>129.2</b>	<b>139.9</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, public financial reports and ASHE

Note:

Figures may not sum to totals due to rounding

## 19.2. High-end Television Tax Relief

**Table 144**

### Economic contribution of HETR, production, 2016-2019

		2016	2017	2018	2019
Employment (FTEs)	Direct	12,320	15,250	16,410	24,780
	Indirect	7,230	8,950	9,640	14,550
	Induced	4,890	6,050	6,510	9,830
	<b>Total</b>	<b>24,440</b>	<b>30,250</b>	<b>32,560</b>	<b>49,160</b>
CoE (£m)	Direct	473.9	594.7	674.4	1,008.0
	Indirect	186.6	234.2	265.6	397.0
	Induced	165.1	207.2	235.0	351.2
	<b>Total</b>	<b>825.7</b>	<b>1,036.1</b>	<b>1,175.1</b>	<b>1,756.2</b>
GVA (£m)	Direct	563.8	707.5	802.4	1,199.2
	Indirect	357.7	448.8	509.0	760.7
	Induced	230.6	289.4	328.2	490.5
	<b>Total</b>	<b>1,152.1</b>	<b>1,445.6</b>	<b>1,639.5</b>	<b>2,450.3</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 145**

### Economic contribution of HETR, distribution, 2016-2019

		2016	2017	2018	2019
Employment (FTEs)	Direct	40	100	270	340
	Indirect	320	1,060	970	2,040
	Induced	120	440	450	860
	<b>Total</b>	<b>480</b>	<b>1,600</b>	<b>1,690</b>	<b>3,240</b>
CoE (£m)	Direct	4.0	18.5	24.5	33.8
	Indirect	9.0	30.2	29.1	60.4
	Induced	3.3	12.3	13.2	24.9
	<b>Total</b>	<b>16.3</b>	<b>60.9</b>	<b>66.9</b>	<b>119.2</b>
GVA (£m)	Direct	19.8	82.2	105.0	167.7
	Indirect	16.8	56.6	54.6	113.3
	Induced	6.0	22.3	24.1	45.4
	<b>Total</b>	<b>42.6</b>	<b>161.1</b>	<b>183.7</b>	<b>326.4</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, IDBR, BRES, public financial reports and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 146**  
**Economic contribution of HETR, television broadcast, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	1,300	2,680	2,630	3,050
	Indirect	1,000	2,160	2,120	2,810
	Induced	440	960	990	1,310
	<b>Total</b>	<b>2,740</b>	<b>5,800</b>	<b>5,740</b>	<b>7,170</b>
CoE (£m)	Direct	63.2	126.1	129.9	189.5
	Indirect	29.0	63.7	65.6	86.2
	Induced	11.9	26.1	26.9	35.4
	<b>Total</b>	<b>104.2</b>	<b>215.9</b>	<b>222.4</b>	<b>311.1</b>
GVA (£m)	Direct	206.9	252.1	194.8	307.2
	Indirect	57.2	125.5	129.3	169.9
	Induced	21.7	47.6	49.0	64.4
	<b>Total</b>	<b>285.8</b>	<b>425.2</b>	<b>373.1</b>	<b>541.5</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 147**  
**Economic contribution of HETR, video platforms, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	290	570	460	590
	Indirect	650	1,650	1,820	2,730
	Induced	310	890	950	1,420
	<b>Total</b>	<b>1,250</b>	<b>3,110</b>	<b>3,230</b>	<b>4,740</b>
CoE (£m)	Direct	10.7	25.4	25.8	37.8
	Indirect	18.1	47.9	53.3	80.2
	Induced	8.6	24.2	25.7	38.2
	<b>Total</b>	<b>37.4</b>	<b>97.5</b>	<b>104.8</b>	<b>156.2</b>
GVA (£m)	Direct	26.7	75.0	82.2	124.5
	Indirect	31.1	94.1	106.3	161.9
	Induced	15.6	41.9	46.7	69.6
	<b>Total</b>	<b>73.4</b>	<b>211.0</b>	<b>235.2</b>	<b>356.0</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, public financial reports and ASHE

Note:

Figures may not sum to totals due to rounding

## 19.3. Animation Tax Relief

**Table 148**

### Economic contribution of ATR, production, 2016-2019

		2016	2017	2018	2019
Employment (FTEs)	Direct	1,560	1,190	1,080	840
	Indirect	680	520	470	360
	Induced	460	350	320	250
	<b>Total</b>	<b>2,700</b>	<b>2,060</b>	<b>1,870</b>	<b>1,450</b>
CoE (£m)	Direct	75.6	51.2	48.6	37.5
	Indirect	16.6	12.9	12.3	9.5
	Induced	12.2	9.4	9.0	6.9
	<b>Total</b>	<b>104.4</b>	<b>73.5</b>	<b>69.8</b>	<b>53.9</b>
GVA (£m)	Direct	78.2	60.7	57.6	44.5
	Indirect	32.7	25.4	24.1	18.6
	Induced	22.1	17.2	16.3	12.6
	<b>Total</b>	<b>133.1</b>	<b>103.2</b>	<b>98.0</b>	<b>75.7</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 149**

### Economic contribution of ATR, distribution, 2016-2019

		2016	2017	2018	2019
Employment (FTEs)	Direct	10	20	60	50
	Indirect	40	210	220	300
	Induced	20	110	110	150
	<b>Total</b>	<b>70</b>	<b>340</b>	<b>390</b>	<b>500</b>
CoE (£m)	Direct	0.5	3.5	4.9	4.7
	Indirect	1.2	6.4	7.1	9.5
	Induced	0.4	2.3	2.6	3.5
	<b>Total</b>	<b>2.2</b>	<b>12.3</b>	<b>14.6</b>	<b>17.7</b>
GVA (£m)	Direct	2.6	15.7	20.8	23.4
	Indirect	2.2	12.0	13.4	17.7
	Induced	0.8	4.3	4.8	6.3
	<b>Total</b>	<b>5.7</b>	<b>32.0</b>	<b>38.9</b>	<b>47.5</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, IDBR, BRES, public financial reports and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 150**  
**Economic contribution of ATR, television broadcast, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	170	510	520	430
	Indirect	130	400	410	380
	Induced	60	190	190	180
	<b>Total</b>	<b>360</b>	<b>1,100</b>	<b>1,120</b>	<b>990</b>
CoE (£m)	Direct	8.4	24.1	25.7	23.8
	Indirect	3.9	12.2	13.0	12.0
	Induced	1.6	5.0	5.3	4.9
	<b>Total</b>	<b>13.9</b>	<b>41.3</b>	<b>44.0</b>	<b>40.8</b>
GVA (£m)	Direct	27.6	48.3	38.6	42.9
	Indirect	7.6	24.0	25.6	23.7
	Induced	2.9	9.1	9.7	9.0
	<b>Total</b>	<b>38.1</b>	<b>81.4</b>	<b>73.9</b>	<b>75.6</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 151**  
**Economic contribution of ATR, video platforms, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	40	130	140	140
	Indirect	80	310	380	420
	Induced	40	170	200	230
	<b>Total</b>	<b>160</b>	<b>610</b>	<b>720</b>	<b>790</b>
CoE (£m)	Direct	1.3	5.4	6.2	6.7
	Indirect	2.3	9.1	11.1	12.4
	Induced	1.1	4.5	5.5	6.1
	<b>Total</b>	<b>4.7</b>	<b>19.0</b>	<b>22.8</b>	<b>25.2</b>
GVA (£m)	Direct	3.6	15.2	18.3	19.8
	Indirect	4.0	17.8	22.0	24.9
	Induced	2.0	8.4	10.0	11.1
	<b>Total</b>	<b>9.6</b>	<b>41.4</b>	<b>50.3</b>	<b>55.8</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, public financial reports and ASHE

Note:

Figures may not sum to totals due to rounding

## 19.4. Children's Television Tax Relief

**Table 152**

**Economic contribution of CTR, production, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	830	920	1,390	1,030
	Indirect	450	500	760	560
	Induced	280	310	460	320
	<b>Total</b>	<b>1,560</b>	<b>1,730</b>	<b>2,610</b>	<b>1,910</b>
CoE (£m)	Direct	32.3	36.4	57.6	42.2
	Indirect	12.1	13.7	21.7	15.9
	Induced	7.6	8.5	13.5	9.9
	<b>Total</b>	<b>52.0</b>	<b>58.6</b>	<b>92.8</b>	<b>68.0</b>
GVA (£m)	Direct	39.0	43.9	69.5	50.9
	Indirect	23.6	26.5	42.0	30.8
	Induced	13.8	15.5	24.6	18.0
	<b>Total</b>	<b>76.3</b>	<b>85.9</b>	<b>136.1</b>	<b>99.7</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 153**

**Economic contribution of CTR, distribution, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	0	20	40	50
	Indirect	10	110	110	260
	Induced	0	40	60	100
	<b>Total</b>	<b>10</b>	<b>170</b>	<b>210</b>	<b>410</b>
CoE (£m)	Direct	0.1	2.2	3.6	4.5
	Indirect	0.2	3.2	3.2	7.3
	Induced	0.1	1.2	1.2	2.7
	<b>Total</b>	<b>0.3</b>	<b>6.6</b>	<b>8.0</b>	<b>14.5</b>
GVA (£m)	Direct	0.4	9.6	15.3	22.1
	Indirect	0.3	6.1	5.9	13.8
	Induced	0.1	2.2	2.1	4.9
	<b>Total</b>	<b>0.8</b>	<b>17.9</b>	<b>23.3</b>	<b>40.8</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, IDBR, BRES, public financial reports and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 154**  
**Economic contribution of CTR, television broadcast, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	20	310	380	400
	Indirect	20	260	320	380
	Induced	10	130	160	190
	<b>Total</b>	<b>50</b>	<b>700</b>	<b>860</b>	<b>970</b>
CoE (£m)	Direct	1.2	14.8	18.9	22.5
	Indirect	0.5	7.4	9.5	11.3
	Induced	0.2	3.0	3.9	4.6
	<b>Total</b>	<b>2.0</b>	<b>25.2</b>	<b>32.3</b>	<b>38.4</b>
GVA (£m)	Direct	3.9	29.5	28.4	40.5
	Indirect	1.1	14.6	18.7	22.2
	Induced	0.4	5.5	7.1	8.4
	<b>Total</b>	<b>5.4</b>	<b>49.6</b>	<b>54.2</b>	<b>71.1</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 155**  
**Economic contribution of CTR, video platforms, 2016-2019**

		2016	2017	2018	2019
Employment (FTEs)	Direct	10	80	110	130
	Indirect	20	200	280	400
	Induced	10	100	150	210
	<b>Total</b>	<b>40</b>	<b>380</b>	<b>540</b>	<b>740</b>
CoE (£m)	Direct	0.2	3.3	4.6	6.3
	Indirect	0.3	5.8	8.2	11.7
	Induced	0.1	2.8	4.1	5.8
	<b>Total</b>	<b>0.7</b>	<b>11.9</b>	<b>16.9</b>	<b>23.8</b>
GVA (£m)	Direct	0.6	9.3	13.9	18.7
	Indirect	0.6	11.3	16.3	23.4
	Induced	0.2	5.1	7.4	10.4
	<b>Total</b>	<b>1.4</b>	<b>25.7</b>	<b>37.6</b>	<b>52.5</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, public financial reports and ASHE

Note:

Figures may not sum to totals due to rounding



# APPENDIX 5

Historical analysis

# 20

## 20.1. Film Tax Relief

Table 156

### Economic contribution of FTR, production, 2009-2015

		2009	2010	2011	2012	2013	2014	2015
Employment (FTEs)	Direct	16,430	14,990	16,980	12,610	13,750	18,670	18,660
	Indirect	10,660	9,660	11,130	7,860	8,860	12,310	12,170
	Induced	6,760	6,150	7,020	5,100	5,650	7,740	7,700
	<b>Total</b>	<b>33,850</b>	<b>30,800</b>	<b>35,130</b>	<b>25,570</b>	<b>28,260</b>	<b>38,720</b>	<b>38,530</b>
CoE (£m)	Direct	561.3	516.5	592.7	455.4	523.7	700.6	704.4
	Indirect	247.4	226.6	263.5	194.4	229.7	312.9	312.0
	Induced	201.9	185.5	213.8	162.3	188.1	253.1	253.8
	<b>Total</b>	<b>1,010.6</b>	<b>928.6</b>	<b>1,070.0</b>	<b>812.2</b>	<b>941.6</b>	<b>1,266.6</b>	<b>1,270.2</b>
GVA (£m)	Direct	695.8	641.5	732.4	571.3	650.5	864.1	871.6
	Indirect	483.9	443.0	515.6	379.8	449.1	612.5	610.4
	Induced	295.3	271.5	312.4	238.1	275.3	369.6	371.0
	<b>Total</b>	<b>1,475.1</b>	<b>1,356.0</b>	<b>1,560.4</b>	<b>1,189.1</b>	<b>1,374.9</b>	<b>1,846.1</b>	<b>1,853.0</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 157**  
**Economic contribution of FTR, distribution, 2009-2015**

		2009	2010	2011	2012	2013	2014	2015
Employment (FTEs)	Direct	1,060	1,160	1,230	850	910	1,210	1,350
	Indirect	2,090	1,400	2,250	1,910	2,080	2,860	3,600
	Induced	560	420	640	560	770	1,060	1,330
	<b>Total</b>	<b>3,710</b>	<b>2,980</b>	<b>4,120</b>	<b>3,320</b>	<b>3,760</b>	<b>5,130</b>	<b>6,280</b>
CoE (£m)	Direct	78.9	64.1	61.4	43.5	72.5	82.4	100.8
	Indirect	62.6	41.7	67.2	57.0	66.5	88.0	106.3
	Induced	15.2	11.2	17.4	15.0	23.1	30.5	36.9
	<b>Total</b>	<b>156.7</b>	<b>117.0</b>	<b>146.0</b>	<b>115.5</b>	<b>162.1</b>	<b>200.9</b>	<b>244.0</b>
GVA (£m)	Direct	386.3	380.1	367.2	76.2	496.8	450.9	728.2
	Indirect	130.8	85.5	138.9	117.4	126.5	215.4	213.5
	Induced	27.7	20.5	31.7	27.3	39.5	67.3	66.7
	<b>Total</b>	<b>544.8</b>	<b>486.1</b>	<b>537.8</b>	<b>220.9</b>	<b>662.9</b>	<b>733.6</b>	<b>1,008.4</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, IDBR, BRES, Comscore, public financial reports, Official Charts Company, BASE and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 158**  
**Economic contribution of FTR, cinema exhibition, 2009-2015**

		2009	2010	2011	2012	2013	2014	2015
Employment (FTEs)	Direct	2,020	3,190	4,510	4,060	2,670	3,210	5,390
	Indirect	810	1,310	1,870	1,540	1,200	1,680	3,220
	Induced	370	590	850	700	550	760	1,460
	<b>Total</b>	<b>3,200</b>	<b>5,090</b>	<b>7,230</b>	<b>6,300</b>	<b>4,420</b>	<b>5,650</b>	<b>10,070</b>
CoE (£m)	Direct	32.4	50.9	73.9	65.8	43.8	59.0	101.9
	Indirect	21.2	34.3	49.0	40.4	31.5	44.0	84.4
	Induced	9.9	16.0	22.9	18.9	14.7	20.6	39.5
	<b>Total</b>	<b>63.5</b>	<b>101.2</b>	<b>145.8</b>	<b>125.1</b>	<b>90.0</b>	<b>123.6</b>	<b>225.8</b>
GVA (£m)	Direct	77.8	115.9	180.3	182.0	112.9	137.5	275.4
	Indirect	40.8	66.0	94.2	77.8	60.7	84.6	162.6
	Induced	18.1	29.2	41.7	34.4	26.9	37.4	72.0
	<b>Total</b>	<b>136.7</b>	<b>211.1</b>	<b>316.2</b>	<b>294.2</b>	<b>200.5</b>	<b>259.5</b>	<b>510.0</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, Comscore, IDBR, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 159**  
**Economic contribution of FTR, television broadcast, 2009-2015**

		2009	2010	2011	2012	2013	2014	2015
Employment (FTEs)	Direct	390	320	380	430	430	260	290
	Indirect	290	240	290	320	330	200	220
	Induced	130	110	130	150	150	90	100
	<b>Total</b>	<b>810</b>	<b>670</b>	<b>800</b>	<b>900</b>	<b>910</b>	<b>550</b>	<b>610</b>
CoE (£m)	Direct	16.6	13.8	16.8	19.6	20.9	12.4	13.6
	Indirect	7.6	6.3	7.7	8.9	9.5	5.7	6.2
	Induced	3.1	2.6	3.1	3.7	3.9	2.3	2.5
	<b>Total</b>	<b>27.3</b>	<b>22.6</b>	<b>27.6</b>	<b>32.1</b>	<b>34.3</b>	<b>20.4</b>	<b>22.4</b>
GVA (£m)	Direct	54.4	45.0	55.1	64.1	68.4	40.7	44.6
	Indirect	14.9	12.3	15.1	17.6	18.7	11.1	12.2
	Induced	5.6	4.7	5.7	6.7	7.1	4.2	4.6
	<b>Total</b>	<b>74.9</b>	<b>62.0</b>	<b>75.9</b>	<b>88.3</b>	<b>94.2</b>	<b>56.0</b>	<b>61.5</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 160**  
**Economic contribution of FTR, video platforms, 2009-2015**

		2009	2010	2011	2012	2013	2014	2015
Employment (FTEs)	Direct	1,660	1,590	1,620	1,410	1,340	1,260	1,050
	Indirect	880	850	870	770	740	720	610
	Induced	470	450	470	420	410	400	340
	<b>Total</b>	<b>3,010</b>	<b>2,890</b>	<b>2,960</b>	<b>2,600</b>	<b>2,490</b>	<b>2,380</b>	<b>2,000</b>
CoE (£m)	Direct	31.8	30.7	31.6	28.8	28.4	26.3	21.9
	Indirect	20.8	20.2	20.9	19.4	19.6	18.6	15.8
	Induced	11.4	11.1	11.5	10.8	11.1	10.7	9.2
	<b>Total</b>	<b>64.1</b>	<b>62.1</b>	<b>64.1</b>	<b>59.1</b>	<b>59.1</b>	<b>55.7</b>	<b>46.9</b>
GVA (£m)	Direct	51.2	49.7	51.6	48.2	49.1	47.0	40.1
	Indirect	34.1	33.1	34.3	31.9	32.3	30.8	26.2
	Induced	20.8	20.2	21.0	19.8	20.2	19.5	16.7
	<b>Total</b>	<b>106.1</b>	<b>103.0</b>	<b>106.9</b>	<b>99.9</b>	<b>101.7</b>	<b>97.2</b>	<b>83.0</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, public financial reports, Official Charts Company, BASE and ASHE

Note:

Figures may not sum to totals due to rounding

## 20.2. High-end Television Tax Relief

Table 161

### Economic contribution of HETR, production, 2013-2015

		2013	2014	2015
Employment (FTEs)	Direct	5,290	8,320	11,100
	Indirect	3,110	4,890	6,520
	Induced	2,100	3,300	4,410
	<b>Total</b>	<b>10,500</b>	<b>16,510</b>	<b>22,030</b>
CoE (£m)	Direct	201.3	310.4	417.7
	Indirect	79.3	122.2	164.5
	Induced	70.1	108.2	145.6
	<b>Total</b>	<b>350.7</b>	<b>540.8</b>	<b>727.8</b>
GVA (£m)	Direct	239.5	369.3	497.0
	Indirect	151.9	234.2	315.2
	Induced	97.9	151.0	203.3
	<b>Total</b>	<b>489.3</b>	<b>754.6</b>	<b>1,015.5</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

Table 162

### Economic contribution of HETR, distribution, 2013-2015

		2013	2014	2015
Employment (FTEs)	Direct	10	10	10
	Indirect	100	110	110
	Induced	40	40	40
	<b>Total</b>	<b>150</b>	<b>160</b>	<b>160</b>
CoE (£m)	Direct	1.2	1.3	1.4
	Indirect	2.6	2.9	3.1
	Induced	1.0	1.1	1.1
	<b>Total</b>	<b>4.8</b>	<b>5.3</b>	<b>5.7</b>
GVA (£m)	Direct	5.8	6.5	6.9
	Indirect	4.9	5.5	5.9
	Induced	1.8	2.0	2.1
	<b>Total</b>	<b>12.5</b>	<b>14.0</b>	<b>14.8</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, IDBR, BRES, public financial reports and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 163**  
**Economic contribution of HETR, television broadcast, 2013-2015**

		2013	2014	2015
Employment (FTEs)	Direct	770	810	1,320
	Indirect	590	620	1,010
	Induced	260	270	440
	<b>Total</b>	<b>1,620</b>	<b>1,700</b>	<b>2,770</b>
CoE (£m)	Direct	37.0	38.1	63.0
	Indirect	16.9	17.3	28.7
	Induced	6.9	7.1	11.8
	<b>Total</b>	<b>60.8</b>	<b>62.5</b>	<b>103.5</b>
GVA (£m)	Direct	121.3	124.6	206.3
	Indirect	33.2	34.1	56.5
	Induced	12.6	12.9	21.4
	<b>Total</b>	<b>167.1</b>	<b>171.7</b>	<b>284.2</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 164**  
**Economic contribution of HETR, video platforms, 2013-2015**

		2013	2014	2015
Employment (FTEs)	Direct	260	250	420
	Indirect	160	170	290
	Induced	90	100	180
	<b>Total</b>	<b>510</b>	<b>520</b>	<b>890</b>
CoE (£m)	Direct	6.9	7.3	13.2
	Indirect	4.4	4.5	8.0
	Induced	2.5	2.7	5.0
	<b>Total</b>	<b>13.9</b>	<b>14.5</b>	<b>26.3</b>
GVA (£m)	Direct	13.8	16.0	30.8
	Indirect	7.2	7.4	13.3
	Induced	4.6	5.0	9.2
	<b>Total</b>	<b>25.7</b>	<b>28.4</b>	<b>53.2</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, public financial reports and ASHE

Note:

Figures may not sum to totals due to rounding

## 20.3. Animation Tax Relief

Table 165

### Economic contribution of ATR, production, 2013-2015

		2013	2014	2015
Employment (FTEs)	Direct	1,100	1,230	810
	Indirect	450	550	360
	Induced	310	370	240
	<b>Total</b>	<b>1,860</b>	<b>2,150</b>	<b>1,410</b>
CoE (£m)	Direct	45.7	51.9	34.0
	Indirect	11.0	13.1	8.6
	Induced	8.1	9.6	6.3
	<b>Total</b>	<b>64.8</b>	<b>74.6</b>	<b>48.8</b>
GVA (£m)	Direct	52.0	61.6	40.3
	Indirect	21.7	25.7	16.8
	Induced	14.7	17.4	11.4
	<b>Total</b>	<b>88.4</b>	<b>104.7</b>	<b>68.6</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

Table 166

### Economic contribution of ATR, distribution, 2013-2015

		2013	2014	2015
Employment (FTEs)	Direct	0	10	0
	Indirect	20	20	10
	Induced	10	10	10
	<b>Total</b>	<b>30</b>	<b>40</b>	<b>20</b>
CoE (£m)	Direct	0.3	0.3	0.2
	Indirect	0.6	0.6	0.4
	Induced	0.2	0.2	0.2
	<b>Total</b>	<b>1.0</b>	<b>1.1</b>	<b>0.8</b>
GVA (£m)	Direct	1.3	1.4	0.9
	Indirect	1.1	1.2	0.8
	Induced	0.4	0.4	0.3
	<b>Total</b>	<b>2.7</b>	<b>3.0</b>	<b>2.0</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, IDBR, BRES, public financial reports and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 167**  
**Economic contribution of ATR, television broadcast, 2013-2015**

		2013	2014	2015
Employment (FTEs)	Direct	170	180	180
	Indirect	120	130	130
	Induced	60	60	60
	<b>Total</b>	<b>350</b>	<b>370</b>	<b>370</b>
CoE (£m)	Direct	8.0	8.2	8.4
	Indirect	3.6	3.7	3.8
	Induced	1.5	1.5	1.6
	<b>Total</b>	<b>13.1</b>	<b>13.5</b>	<b>13.8</b>
GVA (£m)	Direct	26.1	26.9	27.5
	Indirect	7.2	7.4	7.5
	Induced	2.7	2.8	2.9
	<b>Total</b>	<b>36.0</b>	<b>37.0</b>	<b>37.9</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, ABS and ASHE

Note:

Figures may not sum to totals due to rounding

**Table 168**  
**Economic contribution of ATR, video platforms, 2013-2015**

		2013	2014	2015
Employment (FTEs)	Direct	50	40	40
	Indirect	30	20	30
	Induced	30	20	30
	<b>Total</b>	<b>110</b>	<b>80</b>	<b>100</b>
CoE (£m)	Direct	1.2	1.3	1.4
	Indirect	0.7	0.7	0.8
	Induced	0.4	0.5	0.5
	<b>Total</b>	<b>2.4</b>	<b>2.5</b>	<b>2.8</b>
GVA (£m)	Direct	2.5	2.9	3.4
	Indirect	1.2	1.2	1.4
	Induced	0.8	0.9	1.0
	<b>Total</b>	<b>4.6</b>	<b>5.0</b>	<b>5.7</b>

Source: Olsberg•SPI/Nordicity estimates based on data from the BFI, BARB, Ofcom, Omdia, ABS, public financial reports and ASHE

Note:

Figures may not sum to totals due to rounding



# APPENDIX 6

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# APPENDIX 8

Glossary

# 23

**ASHE**

Annual Survey of Hours and Earnings, an ONS dataset

**ABS**

Annual Business Survey, a dataset provided by the ONS

**ATR**

Animation Tax Relief

**BARB**

Broadcasters Audience Research Board

**BFC**

British Film Commission

**BFI**

British Film Institute

**BPI**

British Phonographic Industry, a trade association representing the UK's music recording industry

**BRES**

Business Register and Employment Survey, an ONS dataset

**CAA**

Cinema Advertising Association, a trade organisation

**CG**

Computer graphics

**CoE**

Compensation of employment

**CTR**

Children's Television Tax Relief

**D&B**

Dun & Bradstreet

**DCMS**

Department for Digital, Culture, Media & Sport

**DVD**

Digital video disc

**Economic Impact**

Direct Impact – economic activity (employment and GVA) generated directly throughout the value chain within the sectors covered by this study

Total economic impact – direct impact throughout the value chain within the sectors covered by this study, plus indirect and induced impacts

Overall economic contribution – impacts of all parts of the value chain for the sectors covered by this study plus spillover impacts such as merchandise and screen tourism

**ESAC**

Entertainment Software Association of Canada

**FTE**

Full-time equivalent, a unit to measure non-standard employment, where 1 FTE is equivalent to the average annual workload of an individual employed full time

**FTR**

Film Tax Relief

**GDP**

Gross domestic product, the monetary measure of all final goods and services produced in an economy over a given period (in this case, annually)

**GfK**

A market research firm

**GVA**

Gross value added, a monetary measure of the goods and services provided in a geographical area, industry, or sector of the economy

**HETR**

High-end Television Tax Relief

**HETV**

High-end television. For the purpose of HETR, this is defined as a production made at £1m or above per broadcast hour and a broadcast timeslot of at least 30 minutes

**IDBR**

Inter-Departmental Business Register

**IP**

Intellectual property

**ITIS**

International Trade in Services, an ONS dataset

**Metro London**

A geographical region created for this study, Metro London combines Greater London with Hertfordshire (from the East of England) and Buckinghamshire and Surrey (the South East of England). Metro London better reflects the geography of the film and television production sector, as several of the major studio facilities are located in these counties

**NPD**

Refers to the NPD Group, an American market research firm, formerly called National Purchase Diary Panel Inc.

**NUTS**

Nomenclature of Territorial Units for Statistics; a methodology for sub-dividing countries at EU level

**NUTS 1**

The highest-level sub-division of NUTS, representing the nations of Northern Ireland, Scotland and Wales, and England's 9 regions. These are North East, North West, Yorkshire and the Humber, East Midlands, West Midlands, East of England, London, South East and South West

**Ofcom**

Independent regulator and competition authority for the UK communications industries

**OCC**

OC&C Strategy Consultants

**ONS**

Office for National Statistics

**Operating surplus**

Operating surplus refers to the income earned by a business's owner-operator and shareholders and is often similar to operating profits. Operating surplus is the residual income leftover after the value of employment costs and other purchases of supplies and services are deducted from the value of output

**Pact**

Producers Alliance for Cinema and Television, a trade organisation for the film and television sector

**Primary window**

A platform or service in which a film or television programme is first released commercially to the public

**PSB**

Public Service Broadcaster, a free-to-air broadcaster whose licence terms include various public service remits, for example the provision of news or children's content

**R&D**

Research and development

**RoI**

Return on investment

**Secondary window**

A platform or venue in which a film or television programme is released commercially to the public following release in the primary window

**SIC**

Standard Industrial Classification, a methodology for classifying industries, using a four-digit code

**SOC**

Standard Occupational Classification

**SVoD**

Subscription video-on-demand, a digital rental model for video content

**TVoD**

Transactional video-on-demand, a digital sales model for video content

**Ukie**

UK Interactive Entertainment, a trade organisation for the games sector

**VFX**

Visual effects

**VGTR**

Video Games Tax Relief

**VoD**

Video-on-demand, a digital sales or rental model for video content



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