Review IV: Cost Benefit Analysis of Section 481 of the Taxes Consolidation Act 1997 – Film Corporation Tax Credit

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1. Introduction

Section 481 of the TCA 1997 provides relief in the form of a corporation tax credit related to the cost of production of certain films. The credit is granted at a rate of 32% of the lowest of:

1. eligible expenditure
2. 80% of the total cost of production of the film
3. €70,000,000.

The minimum amount that must be spent on the production is €250,000 and the minimum eligible expenditure amount to qualify is €125,000.

Section 481 has received increased attention this year as it has been subject to a review under the Department of Finance's tax expenditure guidelines. This is the first time the scheme has been reviewed since its transition from an investor based relief to a corporation tax credit system in 2015. The parameters of this review have been restricted to a cost benefit analysis with a full a review of the scheme due to be undertaken in 2020.

Section 481 has also been subject to increased focus this year due to being an integral part of the Department of Culture, Heritage and the Gaeltacht's audiovisual action plan which has been created under the wider initiative, the Creative Ireland programme. As a result of this increased focus, the Department of Finance has been made aware of concerns regarding the need to signal the extension of the credit early in recognition of industry needs, in particular due to the nature of the production cycle. The Department is also aware of concerns regarding increasing delays with regard to obtaining the credit, the application of training on productions and alleged inflation of claims made under the scheme by certain productions.

2. How the scheme currently operates

A producer company must apply to Revenue for a certificate confirming the production meets the conditions set out for the scheme. The Certificate is issued by the Revenue Commissioners but both the Minister for Culture, Heritage and the Gaeltacht and the Revenue Commissioners have specific responsibilities in relation to the certification process. The Minister for Culture, Heritage and the Gaeltacht has responsibility to ensure that it is appropriate for the Revenue Commissioners to consider the issue of a Certificate for a film, having regard to –

- The categories of film eligible for certification and;
- The contribution a film will make to either or both the development of the film industry in the State and the promotion and expression of Irish culture.

The Revenue Commissioners have responsibility to ensure that all other aspects of the project, including the financial aspects, have the potential to satisfy the requirements of the law. The Revenue Commissioners will not issue a Certificate unless they have received an authorisation from the Minister for Culture, Heritage and the Gaeltacht and they are satisfied with the other aspects of the proposal.

3. Transition to a Corporation Tax Credit

Prior to 2015, film relief took the form of an investor tax relief which provided an incentive to individual and corporate taxpayers to invest in Irish film production. The relief was granted by way of a deduction from total income of the amount invested for the year of assessment in which the qualifying film investment was made. The relief was available to individuals in respect of investments in companies producing and distributing films, provided certain conditions were met. Although the immediate aid recipients were the eligible investors, the scheme provided an indirect net benefit to production companies. In this way, the scheme aimed to stimulate private sector investment in film and independent television production by providing a cushion against the inherent risks of production investment. The investor received a return on his investment in the film through the tax deduction but also in part from the film producer, depending on the individual agreement between the investor and the production company. The producer benefited from the difference between the investment received and the return given to the investor. In this way and on average, the tax relief's worth to the producer stood at between 26% and 28% of the eligible expenditure.

From 01 January 2015
Finance Act 2013 amended the scheme such that rather than providing relief to investors, instead, from 01 January 2015 a payable tax credit of 32 per cent is payable directly to a producer company. The tax credit reduces the corporation tax of the qualifying period in respect of which the return filing date immediately precedes the application for a film certificate. Where the tax credit exceeds the tax due for the qualifying period (as reduced by the tax paid), the tax credit will be a payable credit.

4. Rationale for the scheme

The Scheme is intended to act as a stimulus to the creation of an indigenous film industry in the State, creating quality employment opportunities and supporting the expression of the Irish culture. Prior to 2015 the scheme operated by giving tax relief to individuals investing in the film industry. Since2015 the scheme has provided direct support to film producer companies in the form of a tax credit.

5. Creative Ireland Programme

Section 481 is a key element of Pillar 4 of the Government's Creative Ireland programme. Creative Ireland is a five-year initiative, from 2017 to 2022, which places creativity at the centre of public policy. It is a high-level, high-ambition, all-of-government initiative to mainstream creativity in the life of the nation so that individually and collectively, in our personal lives and in our institutions, we can realise our full creative potential.

Creative Ireland is a culture-based programme designed to promote individual, community and national wellbeing. The core proposition is that participation in cultural activity drives personal and collective creativity, with significant positive implications for individual and societal wellbeing and achievement.

Pillar 4 of the Creative Ireland Programme focuses on Ireland as a centre of excellence in media production. Its overarching, long-term objective is to elevate the creative industries and foster innovation in enterprise. The key focus is on Ireland's potential to be a global leader in film production, TV drama, documentary, children's storytelling and animation for the screen.

Creative Ireland provides a context and platform for a major initiative involving Screen Ireland, the independent production sector, third level institutions and other stakeholders to enable and position this sector to be an international leader. With many new and highly resourced buyers and distributors now looking for high quality content and a globally connected audience, the opportunity for Ireland to become a global leader in this area is significant.[58]

6. The Audio-visual Action Plan

The Audio-visual action plan is an industry-wide, long-term plan, under the Creative Ireland Programme supporting the Government's ambition for Ireland as a centre of excellence in media production. The core objective of the Audio-visual Action Plan is to provide the necessary environment for Ireland to become a global hub for the production of Film, TV drama and animation.

The Plan incorporates an amount of €200m of investment in Media Production and the Audiovisual Industry over the 10 years of the plan provided under *Investing in our Culture, Language and Heritage 2018—2027* which sets out the Government's objectives for capital investment in Ireland's Culture, Language and Heritage. The Departments of Culture, Heritage and the Gaeltacht; Communications, Climate Action and Environment; and Business, Enterprise and Innovation and their agencies are key partners in this Action Plan.

The Action Plan has been generated from three key inputs;

1. In December 2017, international audiovisual consultants Olsberg SPI with Nordicity completed a Report commissioned by the key partners above. The Report encompasses an economic analysis of the Irish audiovisual industry and makes recommendations for policy interventions which would increase the value of employment and numbers employed in the sector. The Report made 30 policy recommendations (grouped under

[58] https://creative.ireland.ie/en

eight policy sections) which describe the challenges faced by the audiovisual sector in Ireland.

2. In May 2017, the Minister for Culture, Heritage and the Gaeltacht hosted a Media Production Workshop at the Royal Hospital Kilmainham to invite input from the Irish audiovisual industry. It was attended by over 150 representatives of the film, broadcast and animation sectors.

3. Screen Ireland (formerly the Irish Film Board) and Broadcasting Authority of Ireland (BAI) commissioned consultants Crowe Horwath to produce a report on a "Strategy for the Development of Skills for the Audiovisual industry in Ireland" which was finalised in May 2017.

One of the key points in the plan recommends the Government consider extending Section 481, as well as increasing the expenditure ceiling, revising the regulations and extending the relief to Ireland's games sector.

7. Report by Consultants Olsberg SPI with Nordicity

In December 2017, international audiovisual consultants Olsberg SPI with Nordicity completed a Report commissioned by the Departments of Culture, Heritage and the Gaeltacht, Communications, Climate Action and Environment, and Business, Enterprise and Innovation. The Report encompasses an economic analysis of the Irish audiovisual industry, estimates its size and impact and makes recommendations for policy interventions which would increase the value of and numbers employed in the sector.[59] It should be noted that this report was significantly broader in scope than the Department of Finance's cost analysis in section 9 as the Department of Finance's report was a cost benefit analysis focused specifically on the section 481 Film credit.

The consultant's report identified that the audiovisual & radio sectors supported nearly 17,000 full-time jobs in 2016 and generated a total of approximately €1.1 billion in gross value added to the Irish economy in 2016.

While the headline figures in this report encompassed the radio sector, the main focus of the Report is the audiovisual sector which includes

(1) Film, TV and animation,

(2) Commercial advertising, and

(3) Video games.

The consultants' recommendations are aimed at Ireland's audiovisual sector. The study found that the audiovisual sector supported nearly 14,370 full-time equivalents jobs in 2016; with total

[59] https://www.chg.gov.ie/app/uploads/2018/06/economic-analysis-of-the-audiovisual-sector-in-the-republic-of-ireland.pdf

compensation for employees in these sectors reaching €661.2 million (direct, indirect and induced) and that the audiovisual sector generated a total of €857 million in gross value added to the Irish economy in 2016. The sector also provided valuable cultural exports with the ability to reach substantial global audiences which brings benefits to other industries such as the tourism sector. A large part of Ireland's audiovisual sector is global-facing and the consultants found that these sectors generated an estimated €191 million in export earnings for the Irish economy in 2016.

The consultants concluded that with the implementation of their policy recommendations, Ireland's "film, television and animation" sector could in a period of five years, double employment to over 24,000 full-time equivalents and a gross value added of nearly €1.4 billion.

The report made 30 policy recommendations in total. The report put forward the following key recommendations in relation to Section 481:

- Extend Section 481 beyond 2020
- Increase the cap on eligible expenditure from €70 million to €100 million
- Review the Section 481 regulations
- Extend Section 481 to the gaming sector.

8. Finance Bill 2018 Options

Extension of the credit

The cost benefit analysis in section 9 takes into account quantifiable benefits directly linked to the credit, such as taxes on direct wages and indirect wages, social welfare savings, value added tax, corporation tax and taxes on earnings of foreign labour. Indirect wages are estimated using a multiplier on the spend on goods and services by the production companies. However, It does not factor in other indirect benefits such as accommodation spend by cast and crew, trickle-down spending in local economy, increased tourism as a result of productions based in Ireland or the unquantifiable benefit of developing a robust film industry in Ireland and the related Irish cultural impact referred to in the analysis as the 'cultural dividend'. In essence, the cost identified in the analysis is the price paid for the cultural dividend of having a thriving film sector in the State.

Should a decision be taken to continue the credit, options for Finance Bill 2018 include:

- Legislate for an extension post a five year review to be undertaken in 2020.
- Legislate for an extension this year in acknowledgement of the nature of the production cycle and the importance of early confirmation to provide the certainty industry needs to ensure its continued growth, but subject to continued monitoring of the administration of the scheme

Administration

Delays in relation to processing the credit have been raised on a number of occasions this year by industry stakeholders. It is therefore desirable to make an administrative amendment to ensure the credit works in a more efficient manner.

Proposal

It is proposed that the application process be split to allow for separate applications to be made to both the Revenue Commissioners and DCHG.

Under the current legislative framework the entirety of the application must be made to the Revenue Commissioners. The Revenue Commissioners are responsible for reviewing the relevant data obtained from the applicant and for forwarding the parts relevant to the cultural element of the certification process to the DCHG. Once Revenue and DCHG are satisfied with an application a certificate is granted.

This method has proved to be inefficient and can result in delays in the application process. It is proposed that the process should be separated between both agencies to ensure the credit certification process runs in a more efficient manner.

Self-Assessment

There have been a number of concerns raised recently in both the media and the Dáil with regard to alleged inflated claims being made under section 481.

Proposal

It is proposed to place the credit on a self-assessment footing. This will put the credit inside the normal penalty and prosecution regime if an incorrect claim is made. Revenue have advised that this will not reduce the level of scrutiny applied to applications in the short term. However, Revenue believe that the ability to impose penalties and publication, and to seek prosecution in extreme cases, should mean that over time the level of scrutiny required can be reduced and targeted on the highest risk cases. This will be done in line with how Revenue assess the risk of non-compliance in other areas of the tax code.

Training

Section 481 requires that a producer company employees a certain number of trainees on a production for which the relief is received. The number of trainees is directly linked to the amount of corporation tax relief claimed. A production must have two trainees for every €335,000 of relief claimed, this is capped at a maximum of eight trainees per production. There have been a number of concerns raised this year with regard to the application of the trainee element of the scheme

Proposal

The splitting of the certification process will enable earlier engagement with production companies as to training obligations. However it is acknowledged that training is a multifaceted issue and it is proposed to scrutinise this element of the credit further in 2019. It is also proposed to utilise the audiovisual steering group as a platform engage with all Government Departments and stakeholders with an interest in section 481 to reach a viable solution to the issues that have been raised.

9. Cost Benefit Analysis of the Section 481 Film Tax Credit

9.1 Introduction

This section deals with the evaluation of the Section 481 (S481) scheme including the Department of Finance's cost benefit analysis (CBA) of the relief, which follows the same process as the CBA carried out by the Department on the previous iteration of the scheme in 2012.

This section begins with a brief overview of the types of productions that availed of the scheme from 2015 to 2017, namely: animation, creative documentaries, feature films and TV dramas. Due to data availability, the analysis is restricted to the years 2015 to 2017 as the scheme was changed from an income tax relief directed at investors to a corporation tax relief directed at the producer companies on January 1 2015. There follows an analysis of the budget size of the productions, going briefly into total production budget, S481 eligible budget and the corporation tax credits received. The next part sets out the progression of the cost of the credit from 2015 to 2017, following on from which the trainees employed in productions are discussed. The scheme requires a minimum of two trainees per €355,000 of corporation tax credit claimed up to a maximum of 8 trainees may be employed on a project. The final section of this chapter deals with the CBA carried out by the Department. The economic cost is estimated for the years 2015 and 2016 as these are the latest years for which tax data are available for production companies that availed of the reformed S481 scheme. The economic impact of the scheme is estimated at -€40 million and -€72.4 million in 2015 and 2016 respectively.

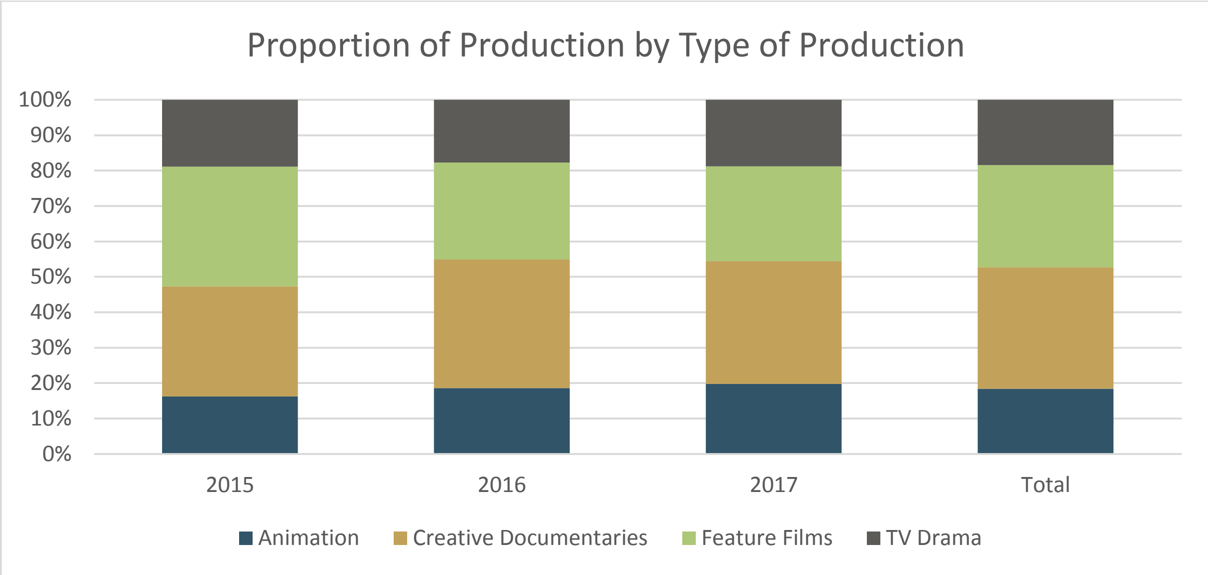
The aim of the scheme is to provide support to maintain high quality domestic audio-visual infrastructure which can thereby support Irish culture. While the CBA incorporates many of the benefits attributable to the scheme, a number of significant benefits cannot be quantified and hence cannot be incorporated into the CBA. The most significant unquantifiable benefit of the scheme, and indeed the purpose of the scheme, is the cultural dividend that it provides the State. Other incidental unquantifiable benefits of the scheme include the increased tourism to the State as a result of productions locating in Ireland.

9.2 Types of production

From 2015 to 2017 inclusive there were 288 productions under the Section 481 tax relief scheme. These were across the 4 broad genres of animation, creative documentaries, feature films and TV drama.

Figure 1 shows a breakdown of productions by genre. In 2015 feature films were the largest group accounting for 25 productions or 34 per cent of productions under the S481 scheme that year. In the two years that followed, the largest group was under the creative documentaries heading accounting for 36 per cent and 35 per cent of productions in 2016 and 2017 respectively. In 2015, the fewest productions came under animation at 12 that year. In 2016 and 2017 TV drama accounted for the fewest number of productions. In total, from 2015 to 2017, animation and TV drama each accounted for around 18 per cent of total productions under this scheme, creative documentaries made up 34 per cent, and the remaining 29 per cent was under the feature film heading. [60]

Figure 4. Source: Department of Finance analysis of data provided by the Revenue Commissioners

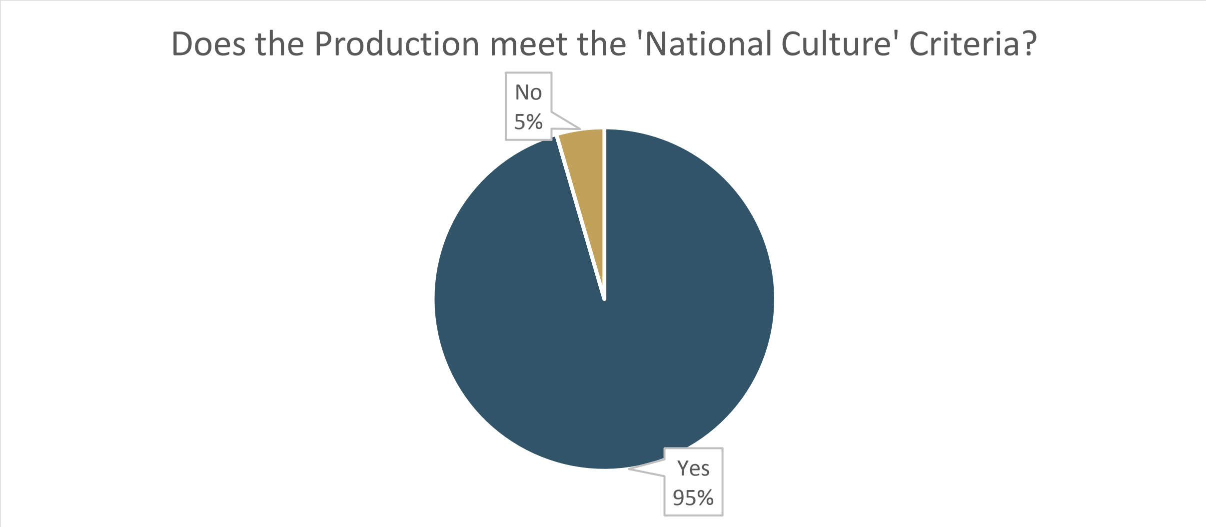


Production companies can avail of this scheme once the production meets at least three criteria from a list of eight provided in the guidelines.[61] Criterion one was met by a significant number of productions, namely, that the production contributes to the development of the industry in the State and the production contributes to the development and enhancement of the national culture. In total from 2015 to 2017, 288 productions qualified for this scheme, all of which acted as a stimulus to film-making in Ireland. Furthermore, 275 of those contributed to the development and enhancement of the national culture (figure 2). A full list of the qualifying criteria can be found in the annex.

[60] A list of beneficiaries of the scheme can be found at: https://www.revenue.ie/en/companies-and-charities/reliefs-and-exemptions/film-relief/beneficiaries-of-film-relief.aspx

[61] The guidance note on the credit can be found at: https://www.revenue.ie/en/tax-professionals/tdm/income-tax-capital-gains-tax-corporation-tax/part-15/15-02-04.pdf

Figure 5. Source: Department of Finance analysis of data provided by the Revenue Commissioners 2015 - 2017



9.3 Budget size

Data provided by the Revenue Commissioners on the number of productions include the total production budget, the S481 eligible budget and the corporation tax credit, each grouped by monetary thresholds. The data reflect production company applications to the scheme from 2015 to June 2018. The majority of productions in this scheme had smaller budgets with 59 per cent coming in with a total budget of less than €2 million, 59 per cent also had S481 eligible budgets of less than €1 million and 72 per cent of productions had corporation tax credits of less than €500,000.

Figure 6. Source: Department of Finance analysis of data provided by the Revenue Commissioners

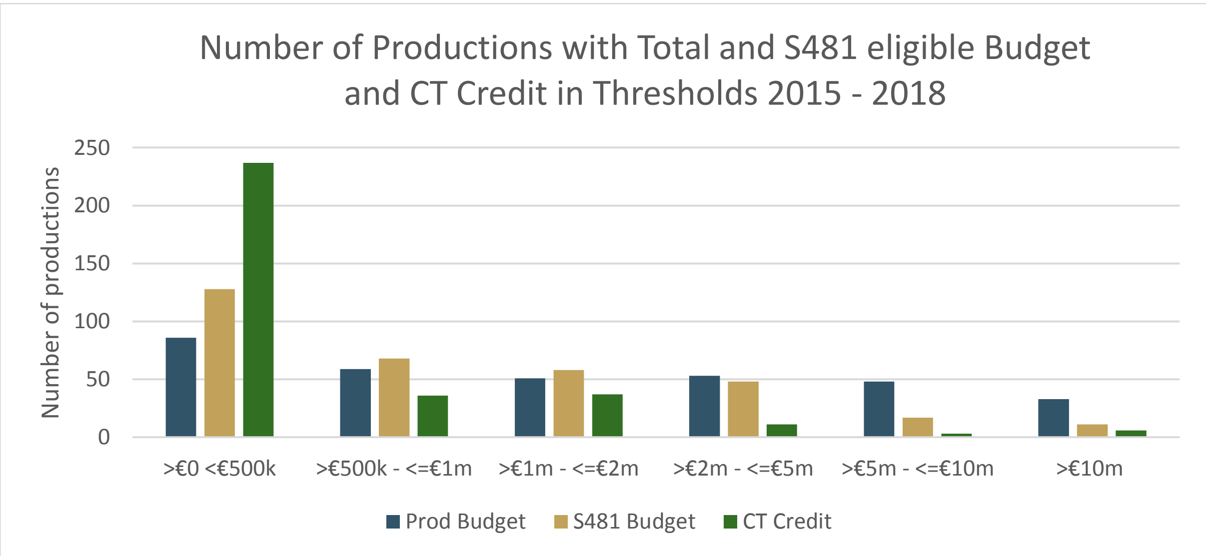


Figure 3 illustrates the number of productions that fall within each threshold for budget size, S481 eligible budget and the ultimate S481 credit to the production. The production can claim the lower of 32 per cent of: 1) the eligible expenditure amount, 2) 80 per cent of the total expenditure or, 3) €70 million (see the Revenue Commissioners guidance). It is therefore intuitive that the largest bar in the first threshold is for the number of firms that received a CT credit of less than €500,000. Maximally eligible spend is 80 per cent of total spend and because of this S481 eligible expenditure is the second largest bar in this threshold followed by total production budget.

There were 33 productions in this period with planned budgets greater than €10 million, of which 11 had an eligible spend of greater than €10 million and 6 are to receive a corporation tax credit of more than €10 million. On the other end of the scale 237 claims were made where the CT credit to be received was less than €500,000, of these 128 had a S481 eligible budget and 86 a total budget of less than €500,000.

9.4 Cost of the credit

From 2015 to 2017 the estimated cost of the credit has grown from €51.5 million to €100 million. As this is a refundable credit, i.e. if the firm's corporation tax liability is smaller than the credit, the Revenue Commissioners will pay the difference to the firm, the estimated cost of the credit is not expressed in the form of revenue foregone. It is instead 32 per cent of the firms' eligible spend (or 80 per cent of total spend or of €70 million, whichever is lowest) based on the application made to the Revenue Commissioners. Table 1 below shows the progression of the estimated cost from 2015 to 2017, the years in which the newly structured scheme was in place. The total estimated cost for the credit in these years was €242.5 million.

As firms can claim the credit in instalments, with the final instalment issued following the successful completion of the project, the total estimated cost of the credit has not yet been paid out. As per the guidelines on the S481, a compliance report must be submitted by the firm along with a report from the firm's auditors confirming the work on the production was performed as required and that the financial requirements were met. From 2015 to 2017, €135.2 million has been dispersed to the production companies, or about 56 per cent of the total estimated cost of the credit.

The estimated cost of €242.5 million does not include the full 'economic cost' of the relief. When one group benefit from a tax expenditure the rest of society must compensate the exchequer for the loss of funds through higher taxation. Due to the distortionary effects of taxation the cost to society is greater than the cost of the tax expenditure alone.[62] The Department of Public Expenditure and Reform produces guidelines on the parameters to be used in CBAs.[63] The parameter for the shadow cost of public funds is 130 per cent of the cost. This implies that for each €1 cost of a tax expenditure there is an overall cost to society of €1.30. The final column in table 1 shows the estimated cost of the credit including the shadow cost of public funds. From 2015 to 2017, the total estimated cost of the S481 credit is €315.25 million.

[62] "Report on Tax Expenditures", Department of Finance, 2014.

[63] https://publicspendingcode.per.gov.ie/technical-references/

Table 2. Estimated cost of credit

Year of Application	Estimated Cost of Credit (€m)	Including shadow cost of public funds (€m)[64]
2015	€52	€67
2016	€91	€118
2017	€100	€130
TOTAL	**€243**	**€315**

9.5 Spending on Labour and Goods and Services

Figure 4 shows the spending on labour and goods and services by firms availing of the scheme from 2015 to 2017. These figures refer only to "eligible expenditure" in Ireland as qualifying for the film credit, not to total production spend in Ireland. In 2016 and 2017, TV drama employed the most labour. In each year it was also the most labour intensive on a per production basis. TV drama had a particularly active year in 2017 with total labour costs of €111.5 million or €5.9 million per production. Spending on goods and services was generally lower than that on labour, both in total terms and per production across years and types of production. TV drama also employed the most goods and services per production in each year.

[64] Detailed explanations of the shadow price of public funds, in addition to other cost-benefit analysis concepts used in this report, are available in Section 1.8.

Figure 7. Source: Department of Finance analysis of data provided by the Revenue Commissioners

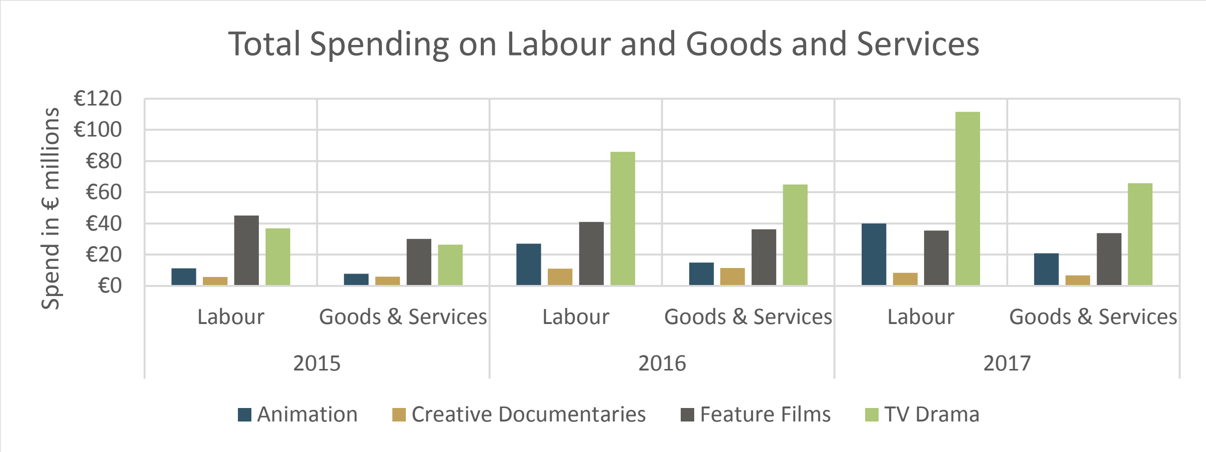
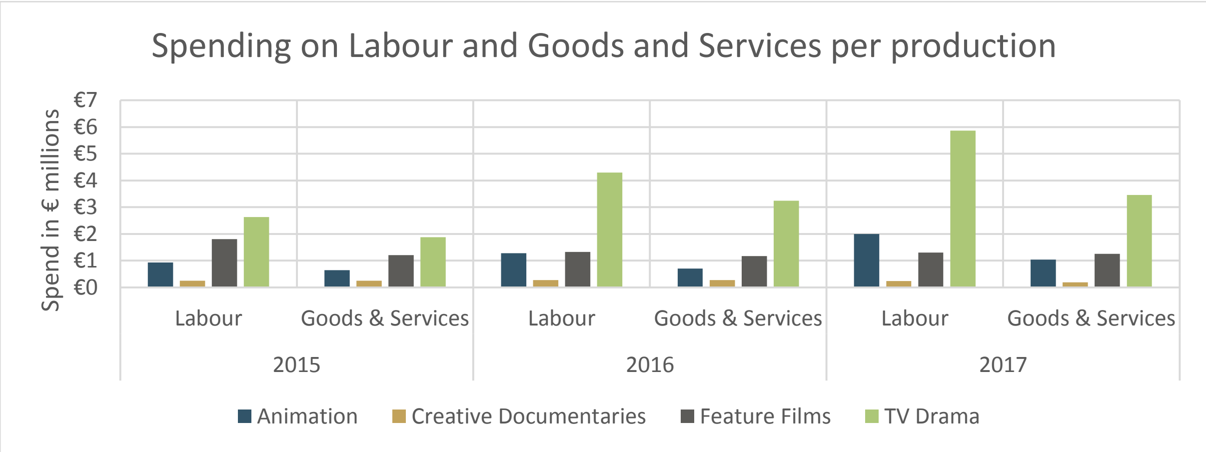


Figure 8. Source: Department of Finance analysis of data provided by the Revenue Commissioners



9.6 Trainees

As evident from the eligibility criteria, an important aspect of the scheme is for the productions to act as a stimulus to film-making in Ireland through, among other things, the provision of quality employment and training opportunities. The guidelines state that a minimum of 2 trainees for each €355,000 of corporation tax credit must be employed up to a maximum of 8 per production. Table 2 provides the number of trainees employed each year from 2015 to 2017, as well as the number of trainees per production and the number of trainees per €355,000 of corporation credit received.

Table 3. Number of trainees employed in total, per production and per €355,000 in budget expenditure

Year of Application	No of Trainees	Trainees per production	Trainees per €355,000
2015	259	3.5	1.8
2016	484	4.3	1.9
2017	456	4.5	1.6
Total	**1,199**	**4.2**	**1.8**

In 2015, the lowest absolute number of trainees is observed at 259 as well as the lowest number per production of 3.5. The highest absolute number was in 2016 at 484. In total over the three years there were 1199 trainees employed in S481 productions, an average of 4.2 per production and 1.8 per €355,000 in budget expenditure.

Each year the number of trainees per €355,000 of corporation credit received comes in at less than the requirement of 2. This is a result of the ceiling of 8 trainees per production imposed by the scheme. The accompanying tax credit implied by the maximum of eight trainees is €1.42 million (€355,000*4). Therefore, for any productions that receive more than €1.42 million in corporation tax credit, the number of trainees per €355,000 will be less than 2 even while employing the maximum number of 8 trainees.

9.7 Cost benefit analysis

The cost benefit analysis (CBA) of the S481 scheme broadly follows that of the CBA conducted on the previous iteration of the scheme (Department of Finance, 2012), which is in line with the Department of Public Expenditure and Reform's Public Spending Code[65] and the Department of Finance's "Report on Tax Expenditures".[66]

The data employed in this section are sourced from the Revenue Commissioners and include both administrative tax data as well as data provided by production companies applying for the relief on the application forms that the firms submit when applying for the S481 credit. Tax data are not yet available for the year 2017 and the cost benefit analysis is therefore limited to analysing the years 2015 and 2016.

Before considering the CBA in detail, a number of important concepts involved are worth discussing, namely: the shadow price of labour and the deadweight of the scheme. The shadow price of public funds has been raised in the cost of the credit section and will be briefly discussed here.

9.8 Cost-Benefit Analysis Concepts

Shadow price of labour

The shadow price of labour enters into the CBA as a cost, reducing some of the labour benefits attributable to the scheme. This adjustment is made because there is not always a large pool of unemployed individuals readily available for projects to draw upon and reflects the opportunity cost of the scheme. As a result, production based in Ireland will not reduce unemployment one for one with the amount of jobs generated. In a scenario where the economy is in full employment, the introduction of a scheme will simply draw employment from other sectors/projects and the shadow cost of labour will be 100 per cent, i.e. none of the labour benefits associated with the grant/scheme are attributable to it.

The Department of Public Expenditure and Reform recommends a shadow price of labour of between 80 and 100 per cent in Ireland. This should be based on the rate of sectoral unemployment, vacancy levels and unfilled vacancies, migration flows, skill levels, and regional

[65] https://publicspendingcode.per.gov.ie/

[66] http://www.budget.gov.ie/Budgets/2015/Documents/Tax_Expenditures_Oct14.pdf

considerations. This guidance implies that between 0 and 20 per cent of the labour component of the scheme may be included as a benefit in the appraisal.

However, the impact of immigration is accounted for, with some of the shadow price of labour in effect added back. This adjustment allows for employment under the scheme being filled through additional immigration to Ireland, as the taxes on this labour income are also a benefit of the scheme.

Shadow price of public funds

As noted in the cost of the credit section, a shadow price must be included to account for the distortionary effects of tax on incentives to consume and provide labour. This is because there is an assumption that direct or tax expenditures provided to one sector must result in a proportional increase in taxation of the rest of the economy. The Public Spending Code in the technical guidance advises a shadow price of public funds of 130 per cent, implying that for each €1 given in tax expenditures the cost to society is €1.30.

Deadweight

As defined in the "Report on Tax Expenditures", deadweight attempts to capture the activities that would have taken place in the absence of the tax expenditure. What this means in practice is that the benefits associated with the expenditure should be adjusted downwards to reflect the fact that some of these benefits would have occurred in the absence of the tax expenditure. A common method of estimating the deadweight of an expenditure is through surveys of stakeholders, although this is imperfect as there is no incentive to give accurate estimates.

In this evaluation, a rather low deadweight figure of 35 per cent is used, which is drawn from the CBA conducted in 2012. This figure represents the weighted average of the estimated deadweight of incoming and domestic productions in the 2012 analysis. Due to the competition internationally to attract productions, incoming productions are assumed to have a very low deadweight of 10 per cent, i.e. only 10 per cent of the economic activity associated to these productions would have taken place in the absence of the scheme. Domestic productions were estimated to have a deadweight of 72 per cent, which was based on the amount of funding provided by investors.

While the Revenue Commissioners do collect data on the sources of funding there is no agreed definition of domestic and income productions and therefore calculating a similar estimate was not feasible. The point estimate of 35 per cent is therefore the best estimate available. However, by way of comparison, it is worth noting that this is much lower than the 60 per cent parameter Forfás recommended using for high potential start-ups.[67]

9.9 Estimation

The data employed in the estimation of the cost benefit analysis are sourced from the Revenue Commissioners and come from the applications submitted by the firms to avail of the credit as well as the associated tax data from 2015 to 2016.

In particular, the costs of the scheme are estimated by the Revenue Commissioners using the submitted applications. Table 1 in the cost of the credit shows the cost of the credit annually from

[67] Murphy, A., Walsh, B., and Barry. F. (2003). "The economic appraisal system for projects seeking support from the industrial development agencies", Forfás

2015 to 2017. In total, including the shadow price of public funds (of 130 per cent), the cost over the two years under consideration, 2015 and 2016, is €185.3 million. The annual breakdown is as follows: €67 million in 2015 and €118.3 million in 2016.

The annual net economic impact of the S481 tax expenditure factors in both the costs and the benefits of the scheme, including shadow prices and grant deadweight, to estimate the cost or benefit to society of S481.

This analysis finds the net annual economic impact of the scheme to be -€40 million and -€72.4 million in 2015 and 2016 respectively, factoring a shadow cost of labour set at 80 per cent and the grant deadweight of the scheme at 35 per cent. Both the shadow cost of labour and the grant deadweight use the same parameters used in the 2012 "Economic Impact Assessment of Section 481 Film Relief". The figure of 80 per cent is the minimum recommended in the Public Spending Code. The estimated the deadweight of 35 per cent was calculated in the 2012 review of the scheme as the weighted average of the incoming and domestic production deadweight, which were estimated to be 72 per cent and 10 per cent respectively. The sensitivity analysis in section 2.1 estimates the economic impact under different parameters for the shadow cost of labour and deadweight.

Below the steps taken to estimate the economic impact for 2016 are presented (the calculations for 2015 are presented in the annex). No attempt is made to gauge the cultural impact of the S481 tax credit, and this economic cost can therefore be seen as the value society places upon the cultural dividend and other unquantifiable benefits accruing in respect of the relief. The cultural dividend reflects the benefits to the State of having a successful and dynamic audio-visual industry which is supported by the S481 scheme. In addition, incidental benefits accruing to S481, which are difficult to quantify and hence not captured in the analysis, include increased tourism resulting from productions locating in Ireland.

Box 1 outlines how the benefits of the scheme are estimated, with further details on the specific calculations provided in Boxes 2 and 3.

Box 1: Estimation of Benefits

GDW = Grant deadweight
SPPF = Shadow price of public funds
v = Shadow price of labour
λ = Proportion of shadow price of labour attributable to immigration

Benefits
B = [1-GDW]*[(1-v)***B1** + (1-v)***B2** + **B3**]
B1 = Direct wage bill
B2 = Indirect wage bill
B3 = λ*v*(taxes on direct wage bill) + λ*v*(taxes on indirect wage bill) + Reduction in deadweight burden of taxation

Reduction in deadweight burden of taxation = (SPPF-1)[(1-v)***T1** +(1-v)***T2** + **T3** + **VAT** +**CT**]

T1 = taxes on direct wage bill + savings in social welfare
T2 = taxes on indirect wage bill
T3 = λ*v*(taxes on direct wage bill) + λ*v*(taxes on indirect wage bill)
VAT = net Value Added Taxes
CT = Corporation Taxes

Box 2 below sets out the calculations of the B1 and B2 benefits for 2016. Detailed data for the year 2017 is excluded from the main analysis as data from the Revenue Commissioners on the taxes paid in that year is not yet available. As such, 2016 is the most recent year of data which predominantly reflects the reformed structure of the film relief. The benefit B1 represents the direct wage bill and B2 the indirect wage bill. The indirect wage bill was arrived at by multiplying the total spend on goods and services by the labour multiplier. The labour multiplier was found to be 0.54 which was calculated using the "Supply and use input output tables" from the CSO[68]. The parameter used in the 2012 report was 0.60. Both the direct and indirect wage bill are reduced by the shadow cost of labour to account for the opportunity cost of labour. Total direct wages earned by individuals employed on S481 productions plus indirect wages earned by individuals resulting from S481 productions was €233.6 million in 2016, this when adjusted by the shadow price of labour reduced the total to an estimated €46.7 million.

Box 2: Direct and indirect labour benefits in 2016

(1) Direct wages (**B1**) = €164.7 million
(2) Materials and services = €127.6 million
(3) Indirect wage bill (**B2**) = ((materials and services)*0.54) = €68.9 million
(4) Total wages ((1) + (3)) = €233.6 million
(5) Total wages reduced by shadow cost of labour ((4)* (1-0.8) = €46.7 million

(1-v)(**B1** + **B2**) = Labour benefit = €46.7 million

[68] https://www.cso.ie/en/statistics/nationalaccounts/supplyandusetablesforireland/

Box 3 estimates the B3 element of the benefits associated with the scheme. Taxes are included in the labour component of the benefits (B1 and B2) but their contribution to the reduction in the burden and distortions of taxation are not. The purpose of the B3 term is to account for this gain to society, along with the benefits of the taxes on employment filled through immigration. Earnings of foreign workers are removed from the labour component (B1 and B2) through the shadow price of labour reduction, though the taxes on these earnings are a benefit to Irish society and they are added back here through the T3 term. The T3 term reflects taxes paid by foreign workers to the Irish Revenue Commissioners and therefore it also appears in the reduction in deadweight burden of taxation.

T1 represents the tax on direct wages and must be reduced by the shadow price of labour to reflect the fact that a portion of those employed will have come from other jobs and increased employment in S481 productions will not reduce the unemployment level one for one. T2 represents the tax on indirect wages and again must be reduced by the shadow price of labour. Included within the T1 term, and thusly the B3 term, are savings in social welfare. Social welfare savings are calculated using estimations of the full time equivalent (FTE) employees employed by S481 productions, which was produced by the Revenue Commissioners. In 2016 the Revenue Commissioners estimate the number of employees directly engaged in S481 productions to be 2,158. The number of FTEs indirectly employed as a result of S481 productions is estimated by dividing the direct wage bill by the number of direct FTEs estimated by the Revenue Commissioners, which will provide a figure on the “wages per FTE”. The indirect wage bill is then by divided by the “wages per FTE” figure to estimate the number of indirect FTEs. The number of FTEs indirectly employed as a result of S481 production is estimated to be 902.

The final element of B3 includes the addition of some of the taxes that were subtracted in T1 and T2 in the shadow price of labour deductions. This element is added back to the benefits of the scheme to account for immigration to Ireland of those employed on S481 productions. Such workers’ tax revenue would not have been collected in Ireland in the absence of the scheme. This is represented by λ in the equation, which takes the value of 55 per cent as with the 2012 evaluation. This tax revenue is included as a standalone benefit and also in the part of the equation that compensates for the distortionary effect of taxation.

Finally, the tax receipts are scaled by the shadow price of public funds as they add to the take of the exchequer and therefore reduce the burden on others. Because of the distortionary effect of taxation on incentives this implies that society’s benefit is larger than the monetary benefit to the State, the parameter used is 30 per cent (i.e. 130 per cent – 100 per cent to estimate the impact of reduced distortionary effects).

Box 3: Tax benefits in 2016

(1) Taxes on direct wages = €26.8 million
(2) Taxes on direct wages reduced by shadow cost of labour [(1)*(1-0.8)] = €5.4 million
(3) Indirect wages = €68.9 million
(4) Estimated Taxes on indirect wages ((3)*0.16) = €11.2 million
(5) Taxes on indirect wages reduced by shadow cost of labour [(4)*(1-0.8)] = €2.2 million
(6) Social welfare savings = €30 million
(7) Social welfare savings reduced by shadow cost of labour [(6)*(1-0.8)] = €6 million

(1-v)***T1** + (1-v)***T2 =** (2) + (5) + (7) = €13.6 million

(8) Taxes on direct wages reduced by λ and shadow cost of public funds [(1)*0.55*0.8] = €11.8 million
(9) Taxes on indirect wages reduced by λ and shadow cost of public funds [(4)*0.55*0.8] = €4.9 million

Total adjustment for λ [(8) + (9)] = **T3** = €16.7 million

B3 = **T3** + TDW [(1-v)***T1** + (1-v)***T2** + **T3** + **VAT** + **CT**]
= €16.7 million + (1.3-1)*[€13.6 million + €16.7 million + (-€7.5) million + €1.1 million]
B3 = €23.9 million

The total benefits of the scheme are the sum of the three elements reduced by the grant deadweight. The grant deadweight used in this analysis is 35 per cent, implying that 65 per cent of the perceived benefits are attributable to the tax expenditure alone. Box 4 presents these results for 2016 showing that the total perceived benefits to the scheme are €70.6 million. This is reduced to €45.9 million when the grant deadweight is included.

When weighed against the cost including the shadow cost of public funds of €118.3 million it is found that the net economic impact of the S481 scheme is -€72.4 million in 2016. The economic impact for 2015 is estimated to be -€40 million and the calculations can be found in the annex.

Box 4: Net economic impact of S481

Benefits = **B** = **B1** + **B2** + **B3** = €46.7 million + €23.9 million

Total Benefits = €70.6 million

Benefits reduced by deadweight = €45.9 million

Total cost (cost*Shadow price of public funds) = €118.3 million

Net Economic cost in 2016 = -€72.4 million

Note: due to rounding individual totals may not total

9.10 Sensitivity analysis

As part of the CBA, a sensitivity analysis was undertaken to assess under what circumstances the S481 tax expenditure provided a positive economic impact (before consideration of the unquantifiable benefits). This analysis is presented in table 3 below. In this table it can be seen that only under the conditions in the top right hand corner there is a positive economic impact from the tax expenditure. In the evaluation the minimum recommended shadow price of labour was used and as shown in table 3 there are no circumstances where there is a net benefit to society with the shadow price of labour parameter at 80 per cent. Under lower than recommended parameters for the shadow price of labour combined with a low grant deadweight there are net benefits to society from the tax expenditure. From this analysis we can assume with relative certainty that there is a net welfare loss to society with this S481 scheme before consideration of the unquantifiable benefits such as the cultural dividend or the increased tourism resulting from productions locating in Ireland. The sensitivity analysis for 2015 can be found in the annex.

Table 4. Sensitivity analysis of the Department of Finance CBA results for 2016

Shadow price of labour	100%	**80%**	60%	50%	40%	30%	20%
Deadweight							
10%	-€95.58	-€54.75	-€13.91	€6.50	€26.92	€47.34	€67.75
20%	-€98.10	-€61.81	-€25.51	-€7.36	€10.78	€28.93	€47.08
35%	-€101.89	**-€72.40**	-€42.91	-€28.16	-€13.42	€1.33	€16.07
40%	-€103.15	-€75.93	-€48.71	-€35.10	-€21.49	-€7.88	€5.74
50%	-€105.68	-€82.99	-€60.31	-€48.97	-€37.62	-€26.28	-€14.94
60%	-€108.20	-€90.05	-€71.91	-€62.83	-€53.76	-€44.68	-€35.61
70%	-€110.73	-€97.12	-€83.50	-€76.70	-€69.89	-€63.09	-€56.28
80%	-€113.25	-€104.18	-€95.10	-€90.57	-€86.03	-€81.49	-€76.95
90%	-€115.78	-€111.24	-€106.70	-€104.43	-€102.16	-€99.90	-€97.63
Note: All costs are in millions of Euro (€m).							

9.12 Future Assessment Considerations

In line with the Tax Expenditure Guidelines, this review notes that detailed future assessments of the Section 481 film relief will be contingent upon the availability of quality data. As discussed in earlier sections, this review's analysis has been constrained by limited data availability due to the inherent lag effects associated with production completions and relief filings since the relief's structural reform in January 2015. A further difficulty for any assessments of this industry lies in the large proportion of third-party contracts involved in these sectors – oftentimes sourced internationally. This implies that the cost and labour figures collected by the Revenue Commissioners may not reflect the entirety of what is borne by the production companies themselves.

While this is an interim three-year review of the scheme, the more detailed five-year review will warrant more detailed data. Future evaluations would be supported by the collection of more detailed data with regards to third-party contracted labour (both contract employment and cost figures), in addition to details on employment activities of trainees (e.g. hours worked, nature of employment). Furthermore, breakdowns of the types of production (e.g. animation, documentary, etc.), budget size, sources of funding, labour and capital costs, and full time employee equivalents for both employee and trainee numbers in particular, on a per-production basis would allow for a cross-analysis of these pivotal themes.

The Department notes that these recommendations are contingent upon the feasibility for the Revenue Commissioners to undertake the necessary changes involved.

9.13 Conclusion

This review conducts a descriptive and cost-benefit analysis of the Section 481 film relief scheme which was reformed in January 2015. Using data from 2015 – 2017 from the Revenue Commissioners, the characteristics of productions availing of this scheme are briefly examined, and a subsequent cost-benefit analysis is undertaken predominantly for the year 2016. The direct cost of this credit over the three years has amounted to approximately € 243 million, rising to a cost of approximately €315 million with the inclusion of the shadow cost of public funds.

The most common production types involved in this scheme are creative documentaries, followed by feature films. The vast majority (95 per cent) of applications for the relief from 2015 – 2017 have passed the Department of Culture, Heritage, and the Gaeltacht's qualifying criteria which state that the production must contribute to the development of the domestic film industry and enhance national culture. The purpose of the S481 scheme is to contribute to the development of a successful and dynamic audio-visual industry in Ireland contributing to the promotion of culture in the State, which can be referred to as the cultural dividend of the scheme.

Production budget sizes range under €500,000 to over €10 million – indicating that the scheme is assists both small and large scale productions. TV dramas had the highest costs for both labour and goods/services per production. The scheme was associated with almost 1,200 trainees over the period 2015 – 2017, though information on full-time equivalents or the nature of trainee tasks is not available.

The Department's cost-benefit analysis examines the economic cost and benefits of the scheme for the year 2016, while taking into account standard estimates of the shadow price of labour, the shadow price of public funds, and grant deadweight - subject to data availability. The total result of the cost-benefit analysis is a net economic cost to society of €72 million in 2016, before consideration of the cultural dividend and other unquantifiable benefits. The average net economic cost for 2015 and 2016 was €56.2 million. Sensitivity analyses provide strong evidence that a net economic cost to society is a reliable conclusion from the cost-benefit study, when the quantifiable benefits alone are included in the analysis. It is worth noting that many jurisdictions have schemes to support the development of a successful audio-visual sector such as the UK, France, Australia and Canada, as noted in the "Review of International Audiovisual State Supports"[69] and for this reason the grant deadweight for incoming productions was set at just 10 per cent in the 2012 review. Given the range of schemes open to productions internationally the S481 corporation tax credit can act as a catalyst in incentivising international productions to locate in Ireland.

However, it is important to highlight that data constraints and the unquantifiable nature of the cultural return to society make it difficult to capture the entirety of economic benefits associated

[69] Available at: https://taxpolicy.gov.ie/wp-content/uploads/2012/12/Report-on-International-Review-of-Audio-Visual-State-Supports-2012.pdf

with this relief. In particular, no attempt has been made to quantify the cultural impact of this scheme. Indeed, being a location for high profile productions greatly benefits Ireland's domestic film industry, providing support to maintain high-quality domestic audio-visual infrastructure which can thereby support Irish culture, which is the main purpose of the scheme. In this regard, the net economic cost can be interpreted as the revealed value which society implicitly places on this cultural dividend. Other incidental benefits include increased tourism to Ireland as a result of big budget productions choosing to locate in Ireland, which is not incorporated on the benefits side of the CBA.

Finally, the review recommends several grounds upon which more detailed data collection could be implemented in order to facilitate a high-quality assessment of this scheme in its future five-year review.

Annex

Eligibility criteria for S481 productions

The decision on whether to authorise a film project will require a film to meet three of the following criteria and the producer should indicate their compliance with these criteria in the covering letter accompanying their application.

- The project is an effective stimulus to film-making in Ireland and is of importance to the promotion, development and enhancement of creativity and the national culture through the medium of film, including, where applicable, the dialogue/ narration is wholly or partly in the Irish language or the production of a full Irish language version of the film is included as part of the total budget for the film.
- The screenplay (or, in the case of a documentary film, the textual basis) from which the film is derived is mainly set in Ireland or elsewhere in the EEA.
- At least one of the principal characters (or documentary subjects) is connected with Irish or European culture.
- The storyline or underlying material of the film is a part of, or derived from, Irish or European culture and/or heritage; or, in the case of an animation film, the storyline clearly connects with the sensibilities of children in Ireland or elsewhere in the EEA.
- The screenplay (or textual basis) from which the film is derived is an adaptation of an original literary work.
- The storyline or underlying material of the film concerns art and/or an artist/artists.
- The storyline or underlying material of the film concerns historical figures or events.
- The storyline or underlying material of the film addresses actual, cultural, social or political issues relevant to the people of Ireland or elsewhere in the EEA; or, in the case of an animation film, addresses educational or social issues relevant to children in Ireland or elsewhere in the EEA.

The following types of film, produced on a commercial basis with a view to the realisation of profit and produced wholly or principally for exhibition to the public in cinemas or through broadcasting, are eligible for certification:

- Feature film,
- Television drama,
- Animation (whether computer generated or otherwise, but excluding computer games), or
- Creative Documentary

Estimating the Economic Impact of the S481 scheme in 2015

Box 5: Direct and indirect labour benefits in 2015

(1) Direct wages (**B1**) = €98.7 million
(2) Materials and services = €70.0 million
(3) Indirect wage bill (**B2**) = ((materials and services)*0.54) = €37.8 million
(4) Total wages ((1) + (3)) = €136.5 million
(5) Total wages reduced by shadow cost of labour ((4)* (1-0.8) = €27.3 million

(1-v)(**B1** + **B2**) = Labour benefit = €27.3 million

Box 6: Tax benefits in 2015

(1) Taxes on direct wages = €15.7 million
(2) Taxes on direct wages reduced by shadow cost of labour [(1)*(1-0.8)] = €3.1 million
(3) Indirect wages = €37.8 million
(4) Estimated Taxes on indirect wages ((3)*0.16) = €6.0 million
(5) Taxes on indirect wages reduced by shadow cost of labour [(4)*(1-0.8)] = €1.2 million
(6) Social welfare savings = €17.0 million
(7) Social welfare savings reduced by shadow cost of labour [(6)*(1-0.8)] = €3.4 million
(8) (1-v)***T1** + (1-v)***T2 =** (2) + (5) + (7) = €7.7 million
(9) Taxes on direct wages reduced by λ and shadow cost of public funds [(1)*0.55*0.8] = €6.9 million
(10) Taxes on indirect wages reduced by λ and shadow cost of public funds [(4)*0.55*0.8] = €2.6 million

Total adjustment for λ [(8) + (9)] = **T3** = €9.6 million

B3 = **T3** + TDW [(1-v)***T1** + (1-v)***T2** + **T3** + **VAT** + **CT**]
= €9.6 million + (1.3-1)*[€7.7 million + €9.6 million + (-€2.3) million + €0.5 million]
B3 = €14.2 million

Box 7: Net economic impact of S481

Benefits = **B** = **B1** + **B2** + **B3** = €27.3 million + €14.2 million

Total Benefits = €41.5 million

Benefits reduced by deadweight = €27.0 million

Total cost (cost*Shadow price of public funds) = €67.0 million

Net Economic cost in 2016 = -€40.0 million

Note: due to rounding individual totals may not total

Table 5. Sensitivity analysis of the economic impact for 2015

Shadow price of labour	100%	**80%**	60%	50%	40%	30%	20%
Deadweight							
10%	-€53.47	-€29.60	-€5.73	€6.21	€18.14	€30.08	€42.01
20%	-€54.96	-€33.75	-€12.53	-€1.92	€8.69	€19.30	€29.90
35%	-€57.21	**-€39.97**	-€22.73	-€14.11	-€5.49	€3.12	€11.74
40%	-€57.96	-€42.05	-€26.13	-€18.18	-€10.22	-€2.27	€5.69
50%	-€59.46	-€46.20	-€32.94	-€26.31	-€19.68	-€13.05	-€6.42
60%	-€60.96	-€50.35	-€39.74	-€34.44	-€29.13	-€23.83	-€18.52
70%	-€62.46	-€54.50	-€46.54	-€42.56	-€38.59	-€34.61	-€30.63
80%	-€63.95	-€58.65	-€53.34	-€50.69	-€48.04	-€45.39	-€42.74
90%	-€65.45	-€62.80	-€60.15	-€58.82	-€57.50	-€56.17	-€54.84
Note: All costs are in millions of Euro (€m).							