ECONOMIC IMPACT OF THE FILM INDUSTRY IN NEW YORK STATE 2017 & 2018

PREPARED FOR: EMPIRE STATE DEVELOPMENT

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ECONOMIC DEVELOPMENT

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About Camoin Associates

Camoin Associates has provided economic development consulting services to municipalities, economic development agencies, and private enterprises since 1999. Through the services offered, Camoin Associates has had the opportunity to serve EDOs and local and state governments from Maine to California; corporations and organizations that include Lowes Home Improvement, FedEx, Amazon, Volvo (Nova Bus) and the New York Islanders; as well as private developers proposing projects in excess of $6 billion. Our reputation for detailed, place-specific, and accurate analysis has led to projects in 32 states and garnered attention from national media outlets including *Marketplace* (NPR), *Forbes* magazine, *The New York Times* and *The Wall Street Journal*. Additionally, our marketing strategies have helped our clients gain both national and local media coverage for their projects in order to build public support and leverage additional funding. We are based in Saratoga Springs, NY, with regional offices in Portland, ME; Boston, MA; Richmond, VA and Brattleboro, VT. To learn more about our experience and projects in all of our service lines, please visit our website at www.camoinassociates.com. You can also find us on Twitter @camoinassociate and on Facebook.

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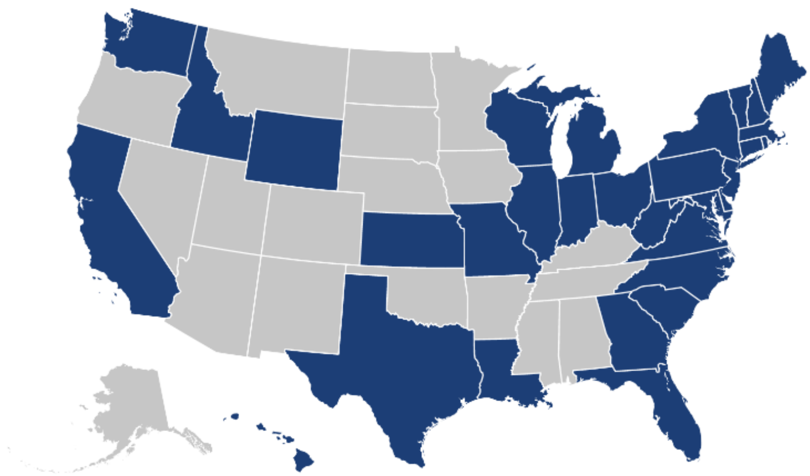

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Executive Summary

Introduction

Empire State Development (ESD) administers the New York State Film Tax Credit Program, a program first established in 2004 and designed to increase the film and television production and post-production industry presence in New York State, and to provide an overall positive impact to the State's economy. The Program provides tax credit incentives to qualified production companies that produce feature films, television series, television pilots and films for television, and/or incur post-production costs associated with these productions to support the growth of the film industry in New York State. As part of the law that extended the program in 2013, ESD is required to have a third party review the impact of the program on a biennial basis to calculate the economic and fiscal impact of the State's investment. Camoin Associates was hired by ESD to complete this review for years 2017 and 2018. What follows is a summary of this analysis with more detail in the full report.[1]

Background

New York offers tax incentives to encourage the growth of the film industry in the state through two separate programs: the Film Production Credit and the Post-Production Credit. Both of these programs encourage the use of New York State (NYS) facilities and offer substantial tax incentives on industry spending in the state.

The first step of the analysis was to conduct research into the film industry and understand how the tax credit program impacts filming location decisions. This research included literature review, data analysis, and reviews of similar reports on the subject. The findings of this research overwhelmingly supported the notion that the tax credit program in NYS has been a driver of economic activity in the film industry. Furthermore, the research found that, without the tax credit program, NYS would lose industry activity to other states that offer incentives, since the industry is highly mobile and price sensitive.

Findings

Economic Impact Analysis

An economic impact analysis looks at how direct spending resulting from a particular industry or project has multiplier impacts throughout the economy and results in new jobs, earnings, and spending. The direct impacts in this case are the production and post-production spending in New York State by credit-eligible projects produced during 2017 and 2018. Those direct impacts are then run through an economic impact model to estimate the indirect impacts resulting from business-to-business purchases and from employees spending a portion of their wages locally. The sum of direct and indirect impacts is the total economic impact of the tax credit programs.

Table 1, below, summarizes the combined impact of the Film Production Tax Credit and the Post-Production Tax Credit during years 2017 and 2018.

[1] Camoin Associates also completed the 2013/2014 and 2015/2016 impact analysis.

Table 1: Production and Post-Production Credit – Total Economic Impact on New York State, 2017 & 2018

Production and Post-Production Credit - Total Economic Impact on New York State (2017 & 2018)			
	Direct	Indirect	Total
Jobs	43,351	42,484	85,835
Earnings	$ 2,431,530,167	$ 2,626,052,581	$ 5,057,582,748
Spending	$ 8,040,702,136	$ 7,194,919,195	$ 15,235,621,331

Source: Empire State Development, EMSI, Camoin Associates

In total, the Film Production Tax Credit and the Post-Production Tax Credit program generated over $8 billion in direct spending in New York State over the two-year period of 2017 and 2018. The $8,040,702,136 in direct spending resulted in 85,835 total jobs,[2] $5.1 billion in earnings, and over $15.2 billion in total spending throughout the New York State economy.[3] As noted, these impacts cover a two-year period (2017–2018). Therefore, to annualize the impacts, we simply divide by 2 to find that collectively, the credits directly supported nearly 43,000 jobs each year, $2.5 billion in earnings each year, and $7.6 billion in spending per year in NYS.

Additional Impacts

The New York State film industry tax credit programs have an impact beyond just what is calculated in the above sections. These additional impacts include: (a) support of film industry cluster-specific workforce and infrastructure development, and (b) film production induced tourism. These impacts are not accounted for in the above economic impact calculations, but nevertheless have an impact on the film industry and the NYS economy.

Film Industry Cluster Effect – Because of the significant cluster of film-related industries in New York, there exists a virtuous, self-reinforcing cycle where businesses, workers, and infrastructure serve to perpetuate the advantages of producing in New York. For example, as more productions occur in NYS, there are more employment opportunities, the skill levels of the overall workforce are improved, and the industry as a whole benefits. As a result of this cluster effect, additional production activity, beyond that which is directly incentivized by the tax credit program, is occurring in NYS. Without the tax credit, this non-incentivized activity could begin to decline over time.

Film Production Induced Tourism – Film-induced tourism can take a number of different forms ranging from tourists extending their stay in a particular place to visit different sites featured in a movie or television show, to distinct visits to a location to see where the film was made, to visitors traveling to see where a film or television show is currently being made. All of this visitation generates revenue and employment that otherwise would not exist without the location's connection to the film industry.

Fiscal Impact Analysis

The film industry not only impacts the NYS economy in terms of jobs, earnings, and spending but also creates direct and indirect tax revenue for NYS, NYC and other local governments. The analysis used the findings of the economic impact analysis to calculate how this activity results in additional tax revenue for

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[2] A "job" is equal to one person employed for some amount of time (part-time, full-time, or temporary) during 2017 or 2018. For example, if a person is employed full-time in 2017 and 2018 that would be considered two jobs. Another example is two jobs being recorded if one person is employed part-time for four months at one production company, then takes two months off and is hired again for four months at another company.

[3] Note that the earnings impact is also captured in the spending impact. As the production companies spend money on labor they are creating additional earnings.

NYS, NYC, and other local jurisdictions. Based on the activity that was associated with the film industry during 2017 and 2018, it is estimated that NYS, NYC and other local jurisdictions received $1.7 billion in additional tax revenue from the Film Production Tax Credit activity and NYS, NYC, and other local jurisdictions received an additional $56 million from the Post-Production Tax Credit activity.

An essential question of this analysis is: How do the tax revenues that are generated by the film production tax credits compare to the amount of tax credits that are issued? In other words, when referring only to taxes, what is the state's return on investment (ROI) of the tax credit program? For the production and post-production activity during the 2017–2018 period the state offered nearly $1.8 billion in incentives, to be paid out over several years following the completion of the projects (Table 2).

Table 2: Tax Credits Issued

Tax Credits Issued		
Production Credits	$	1,713,169,677
Post-Production Credits	$	55,806,987
Total	$	1,768,976,663

Source: Empire State Development

Table 3 compares the NYS, NYC, and other local jurisdiction tax collections associated with the production credit to the net present value (NPV) of the production credit payout.[4] When combining the tax benefits that accrue to NYS, NYC, and other New York local governments, the ROI ratio for the production credit is 1.08. In other words, for every $1 NYS pays in incentives, NYS, NYC and local jurisdictions receive a total of $1.08 in tax revenues.[5],[6]

Table 3: Production Credit – Return on Investment

Production Credit - Return on Investment		
New York State Tax Collections	$	735,264,881
New York City Tax Collections	$	764,585,894
All Other NYS Local Govt Tax Collections	$	147,233,767
Combined Tax Collection	**$**	**1,647,084,542**
NPV of Estimated Production Credit Payout	$	1,530,273,924
Return on Investment Ratio		**1.08**

Source: Camoin Associates

Similarly, for the post-production credit, Table 4 compares the projected tax collections associated with the post-production activity to the projected post-production credit payout. The ROI for the post-production credit 0.86, meaning that for every $1 of tax credits issued, NYS, NYC and local jurisdictions receive $0.86 in tax revenue.[7]

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[4] The NPV is used because the tax collections from the industry spending and employment is occurring during the 2017/2018-time period whereas the tax credits are paid out over a period of several years that will extend well beyond 2018.

[5] NYC receives about $0.50, other local jurisdictions receive $0.10, and NYS receives $0.48 in tax revenue.

[6] The ROI Ratio of $1.08 is slightly lower than that of previous analyses for reasons explained at length in the body of this report, including (a) the fact that growth in the NYS economy has outpaced NYS tax revenue collections, and (b) applications coming from television series reached all-time highs over 2017-2018, which have a slightly lower ROI Ratio than Feature Films.

[7] NYC receives $0.44, other local jurisdictions receive $0.04, and NYS receives $0.38 in tax revenue.

Table 4: Post-Production Credit - Return on Investment

Post-Production Credit - Return on Investment		
New York State Tax Collections	$	20,332,915
New York City Tax Collections	$	23,360,369
All Other NYS Local Govt Tax Collections	$	2,222,146
Combined Tax Collection	**$**	**45,915,429**
NPV of Estimated Post-Production Credit Payout	$	53,619,575
Return on Investment Ratio		**0.86**

Source: Camoin Associates

Note that an ROI ratio less than 1.00 is not necessarily a negative indication of this or any tax credit program because it only considers the impact on tax revenues. The larger consideration is the ROI ratio as compared to the jobs, wages and economic output that the program creates. One way to express this larger consideration is the net tax cost per job. For the Production Tax Credit, with an ROI of 1.08, the State is helping create and sustain 83,525 jobs with no net cost to taxpayers. For the Post-Production Credit, 2,310 jobs were generated throughout the State for a net tax cost of $7.7 million. This means each post-production job costs the State about $3,300 on a net basis[8].

Indeed, ratios below 1.00 are common. Below is a sample of film production tax credit ROI ratios calculated in various states within the last five years.[9]

- California (2014) **1.11**[10]
- Florida (2015) **0.43**[11]
- Louisiana (2015-2016) **0.22**[12]
- Florida (2018) **0.18**[9]

Conclusion

During the 2017–2018 study period, NYS invested a total of $1,583,893,499 (net present value) in incentives through the Production Tax Credit and the Post-Production Tax Credit to be paid out over a period from 2018 to 2025. In exchange, NYS, NYC, and local jurisdictions will directly receive $1,692,999,971 in total tax revenue while supporting nearly 43,000 jobs per year, $2.5 billion in earnings per year, and nearly $7.6 billion in spending throughout New York State per year.

[8] By way of comparison, the federal Community Development Block Grant program caps assistance for new jobs at a maximum of $15,000 per job.

[9] Includes a representative sampling of film-tax credit programs across the country. When tax credit reviews are made, these ROI ratios are often not calculated, and many states conduct no review of their programs at all, so few data points of comparison are available. Furthermore, methodologies differ in the calculation of impacts and, hence, ROI ratios, which make comparisons difficult.

[10] (Southern California Association of Governments, 2014)

[11] (Florida Office of Economic and Demographic Research, 2018)

[12] (Louisiana Department of Economic Development, 2017)

Introduction

Empire State Development (ESD) administers the New York State Film Tax Credit Program, a program first established in 2004 and designed to increase the film and television production and post-production industry presence in New York State, and to provide an overall positive impact to the State's economy. The Program provides tax credit incentives to qualified production companies that produce feature films, television series, television pilots and films for television, and/or incur post-production costs associated with these productions to support the growth of the film industry in New York State. As part of the law that extended the program in 2013, ESD is required to have a third party review the impact of the program on a biennial basis to calculate the economic and fiscal impact of the State's investment. Camoin Associates was hired by ESD to complete this review for years 2017 and 2018.[13]

In order to complete this analysis Camoin Associates conducted research including a review of existing literature on the topic and industry data collection and analysis. This background research proved to be helpful to not only understand the industry, but also to determine the importance of the tax credit program in the attraction and retention of the film industry in NYS.

The following report provides background on the tax credit programs, calculates and analyzes the economic and fiscal impact of the program in NYS, and finally estimates the return on investment (ROI) ratio for the State that compares the annual investment in the credit (amount of credits issued) to the annual income that the state receives (amount of tax revenue generated by the industry).

Background

Overview of the New York State Film Tax Credit Program

First established in 2004, the NYS Film Tax Credit Program[14] is designed to encourage and support the film industry in New York State and increase its presence and overall impact on the state economy. The original legislation offered a 10% credit on qualified "below-the-line"[15] expenditures. In 2008, the program was extended and expanded to a 30% credit on below-the-line expenditures. The program has been extended a number of times, most recently for the period of 2020-2022. The current regulations for the program make benefits eligible for production and post-production costs, including a fully refundable credit of 30% (additional benefits available to projects in NYS but outside of New York City[16]) of qualified production and

[13] Camoin Associates also completed the 2013/2014 and 2015/2016 impact analysis.

[14] The Empire State Film Production Credit was first enacted in 2004 (Chapter 60) and was subsequently amended several times to either increase and extend program funding or to increase the amount of credit for a project (e.g. 10% to 30% of qualified costs). In 2010, the Empire State Post Production Tax Credit was created. Total funding authorized as the first pool of program funds is $1.035 billion for tax years 2004 to 2013. An additional pool of $3.78 billion of funds were authorized for tax years 2010 through 2019 ($420 million/year). The post-production tax credit is financed out of the additional pool ($420 million/year) and the amount of the funds dedicated to post-production projects were increased from $7 million/year for years 2010-2014 to $25 million/year for years 2015-2019. Finally, beginning in 2015, film companies are eligible for an additional 10% credit for labor costs incurred in certain upstate counties.

[15] "Below-the-line" expenditures include costs for technical and crew production, use of film production facilities, props, makeup, wardrobe, non-speaking background extras, film processing, camera, sound recording, set construction, lighting, shooting, editing, and meals. They exclude costs such as compensation for the screenwriter, producer, director, principal actors, and expenditures on rights to secure the material on which the script is based and production rights to the screenplay.

[16] Effective January 1, 2015 an additional 10% credit on upstate labor was added to the Film Production Tax Credit to productions with a total budget greater than $500,000 that are using labor for production in a set of counties outside of NYC.

post-production costs incurred in NYS. New York State has set aside $420 million per year to be allocated towards this credit. The credits received by a film company are paid out over a period of 1 to 3 years following production, depending on production timing and budget.

Film Production Credit – The Film Production Credit is available to offset qualified production costs which include below-the-line items. Eligibility for the credit is determined by the type of project (e.g. documentaries and game shows are not eligible).

Post-Production Credit – The Post-Production Credit (post-production) is available to film production companies that either film in New York State but are ineligible for Production Credit, or film outside of NYS, but do some or all of their post-production work in the state. Note that productions that qualify under the Film Production Credit can claim their post-production costs under the Film Production Credit.

In order to receive either of the tax credits, film companies must submit documentation throughout the process including an initial application that outlines their projections for qualified spending and a final application once the project is complete. Ultimately the full project is audited to determine the actual credit amount. Administration of the program is handled by Empire State Development.

Other Film Industry Incentive Programs

New York State's incentive program for the film industry is not unique. A 2018 study issued by the National Conference of State Legislatures reported that 31 states, Washington D.C., Puerto Rico and the U.S. Virgin Islands offer film production incentives.[17] The incentives available for the film industry started to take root in the 1990s with Louisiana passing the Motion Picture Investor Tax Credit.[18] In the early 2000s only a handful of states offered similar programs, but the number of states with film incentives increased dramatically by 2010 as states began to compete in earnest with each other. Incentives to the film industry vary widely from state to state with some of the key differences being that some states offer incentives on above-the-line costs, which NYS does not do, and some offer cash rebates rather than refundable tax credits. Additionally, other countries have significant incentives that draw productions out of the United States to places like Toronto, Vancouver, London, Turkey, Australia and throughout the world. Prior to credits being available in NYS, many films set in New York were primarily shot in foreign locations (Toronto in particular) with the crew coming to New York for a short time to shoot key location shots such as the Empire State Building, Times Square, the New York City skyline, and the Statute of Liberty.

Literature Review

As part of the research process, Camoin Associates reviewed dozens of reports and articles on the film industry and the associated incentive programs in New York State and throughout the United States. This research provided us with an in-depth understanding of how and why the tax credit programs came to be and the role that they play in growing the film industry in places outside of the traditional United States "powerhouses" of New York and California.

Previous Reports on the Impact on New York State

Two previous studies have been completed to analyze the impact of the tax credit program on New York State, including a report prepared in February 2009 by Ernst & Young for the New York State Governors Office of Motion Picture and Television Development and the Motion Picture Association of America ("Ernst

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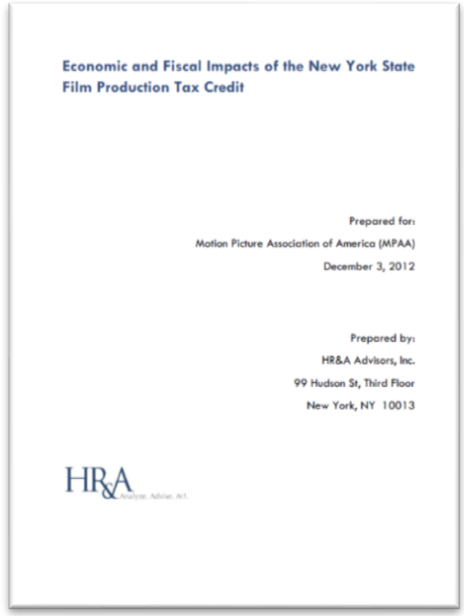
[17] (National Conference of State Legislatures, 2018)

[18] (Adkisson, 2013)

& Young Report") and subsequent update report completed in December 2012 by HR&A Advisors for the Motion Picture Association of America ("HR&A Report"). Both reports looked at the economic and fiscal impact of the New York State Film Production Tax Credit and compared the fiscal benefits to the cost associated with the program (lost tax revenue resulting from the credit).[19]


Economic and Fiscal Impacts of the New York State Film Production Tax Credit

Prepared for:
Motion Picture Association of America (MPAA)
December 3, 2012

Prepared by:
HR&A Advisors, Inc.
99 Hudson St, Third Floor
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HR&A

The most recent study prepared by HR&A Advisors found that in 2011 the Film Production Tax Credit supported 28,000 jobs (including 12,600 direct jobs and 16,300 indirect jobs), $6.9 billion in sales and $4.2 billion in wages per year. Additionally, the Film Production Tax Credit generated $748 million (New York State and New York City taxes) in taxes while distributing $355 million in credits, resulting in a return on investment of 2.23 for the credits. When considering only the tax revenues received by New York State, the return on investment is 1.09, so for every dollar of tax credit issued the report finds that $1.09 is generated as tax revenue.

In 2015, a report was released by Empire State Development that was prepared by Camoin Associates measuring the impact of the Film Tax Credit Program during 2013 and 2014; a second report was released in 2017 for the impact of the program in 2015 and 2016. The 2013/2014 and 2015/2016 analysis followed the same methodology being employed as this 2017/2018 report.

Note that the methodology of the HR&A Report differs from the Camoin Associates methodology in two primary ways, both of which have an impact when comparing the findings of the two reports. First, the HR&A Report is looking at a one-year time frame whereas this report is focused on a two-year timeframe. Secondly, the HR&A Report includes all of the spending of projects that received the tax credit, plus a percent of all other spending in the film industry in New York State. In comparison, this analysis only includes the spending by productions that received the tax credit and can be reasonably assumed to have been induced to New York State as a result of access to the credit program. The approach of this analysis is more conservative and is focused on measuring only the activity that occurred as a direct result of the tax credit program.

Other Reports

In addition to the reports that have been written about the film industry in New York State, the research team also reviewed reports on other states, countries, and topics associated with the analysis. The full list of references can be found in Attachment B with summaries in Attachment C.

Major takeaways of the literature review:

- The vast majority of the film industry is highly mobile and able to relocate productions relatively quickly if a better offer is available that would make the project easier to finance or allow for a better return. As a result, states have had to remain highly competitive with their incentive programs to attract and retain the film industry.
- Growth of the film industry has additional economic benefits outside of the sub-sectors directly related to movie and television production. Reports have shown that film-induced tourism is real

[19] Note that these studies were not done in connection with Empire State Development.

and can have positive implications on the overall economy. Additionally, when productions move in to a region they impact many other industries such as lodging, retail, construction, services, and others as the operation hires locally.

- Reports that look at the economic impact of the film industry in a particular geography consider all eligible spending as a result of access to the incentive program.
- Incentive programs, of all types and for all industries, are controversial. The film industry tax credit program is no different and oversight and periodic reviews are necessary to ensure the programs are furthering the intended goals.

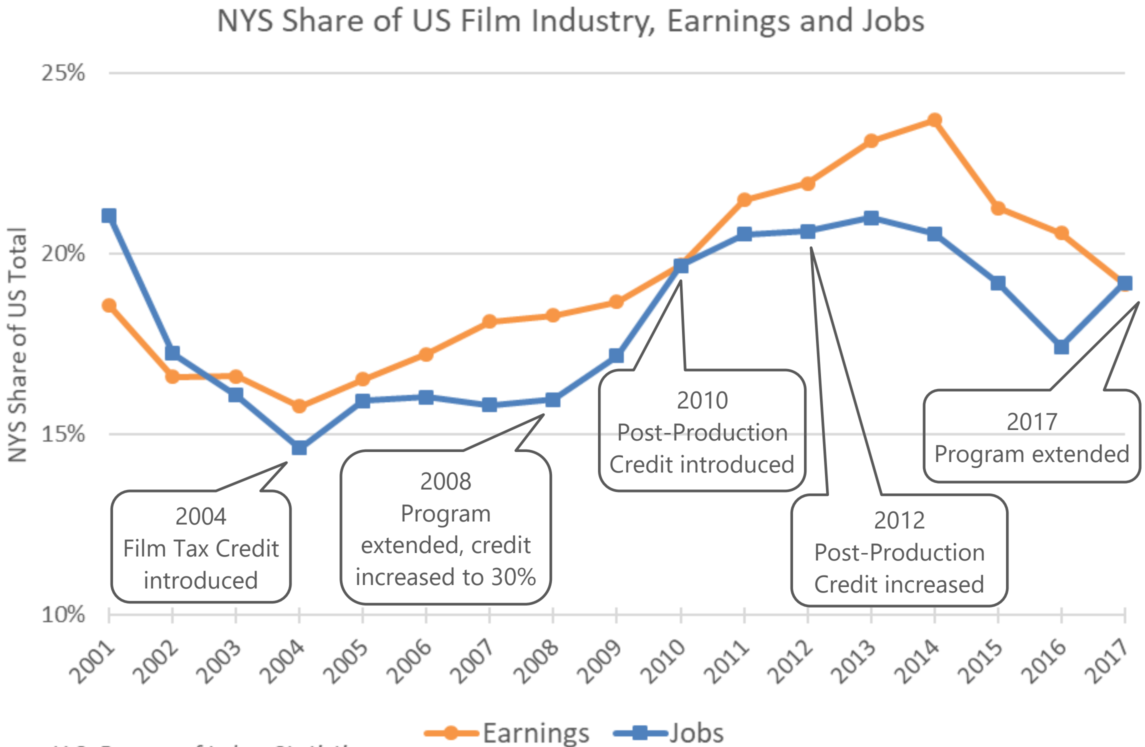
Data Analysis

As shown in Figure 1 New York State began to lose film industry[20] employment and earnings share beginning around 2001. In that year, 21% of film industry jobs were in the state. As other states started to introduce incentive programs, New York began to lose employment share, falling 6 percentage points to under 15% in just three years.

In 2004, the state introduced its 10% film credit program, which had the effect of creating new jobs and investment in New York. The credit was enhanced to 30% in 2008, which further strengthened New York's position in the industry. The state's share of film jobs and earnings continued to rise, again reaching its 2001 peak of 21% in 2013. Since 2013, New York's share of jobs has begun to decline slightly, falling to 17% in 2015 but rebounding in 2017 to 19%. Earnings peaked in 2014 at 24% and have declined in the years since then to 19% in 2017.

[20] The film industry is defined as the following NAICS codes: 512110 Motion Picture and Video Production, 512120 Motion Picture and Video Distribution, 512191 Teleproduction and Other Postproduction Services, and 512199 Other Motion Picture and Video Industries. It is important to note, however, that many film jobs are not classified in these specific NAICS codes. For example, many in the film industry are counted in the Independent Artists sector or Entertainment Payroll sector and those are not counted here so the impact listed is most likely a conservative estimate.

Figure 1: New York State Share of U.S. Film Industry Earnings and Jobs, 2001-2017



Source: U.S. Bureau of Labor Statistics

Economic Impact of the Film Industry

Availability of the New York State film industry tax credit programs (both the production and post-production credit) has resulted in the industry spending significant amounts of money throughout the state. Expenditures on labor, equipment, construction, lodging, food, transportation, and many other expenses are the "Direct Impact" of the film industry tax credit program. "Indirect Impacts" occur as the businesses supplying directly to the film industry make purchases from second-tier suppliers, those second-tier suppliers make purchases from third-tier suppliers, and so on, back through the supply chain. Another component of indirect impacts are induced impacts—those impacts that occur as employees, both those in the film industry and those working for film industry suppliers—spend their wages in the economy. Together, direct, indirect, and induced impacts comprise the total economic impact of the film industry on New York State.

Methodology

Empire State Development provided Camoin Associates with production and post-production spending figures for credit-eligible projects produced during 2017 and 2018. These were projects for which tax credit applications had been submitted as of December 20, 2018.

There are three stages of the application process: submission of the initial application, submission of the final application, and audit of the final application. Because many of the projects included in the analysis have not yet completed production, complete final audited spending data was not yet available. As a result, Camoin Associates relied on the most current data available for each project. For projects in the first stage, we used project spending estimates provided by the applicant, and for projects in the second phase we used actual unaudited data on project spending provided by the applicant. Actual audited data on project spending was used for projects in the third phase of the application process.

Production and post-production spending by credit-eligible projects falls into two categories: qualified and non-qualified costs. Qualified costs refer to production costs to which the tax credit can be applied and include most "below-the-line" expenditures, such as costs for technical and crew production, use of film production facilities, props, makeup, wardrobe, non-speaking background extras, film processing, camera, sound recording, set construction, lighting, shooting, editing, and meals. Non-qualified costs include

Modeling Software

Economic Modeling Specialists, Intl. (EMSI) designed the input-output model used in this analysis. The EMSI model allows the analyst to input the amount of new direct economic activity (spending, earnings, or jobs) occurring within the study area and uses the direct inputs to estimate the spillover effects that the net new spending, earnings, or jobs have as these new dollars circulate through the study area's economy. This is captured in the indirect impacts and is commonly referred to as the "multiplier effect." See Attachment A for more information on economic impact analysis.

Definition of a "Job"

A "job" is equal to one person employed for some amount of time (part-time, full-time, or temporary) during 2017 or 2018. For example, if a person is employed full-time in 2017 and 2018 that would be considered two jobs. Another example is if one person is employed part-time for four months, then takes two months off and is hired again for four months (i.e. two jobs counted).

The information must be calculated in this way as a result of the way the job information is reported by the Quarterly Census of Employment and Wages (QCEW), Bureau of Labor Statistics (BLS) and Bureau of Economic Analysis (BEA). The information is provided by the employers to the government in terms of total jobs, not by total number of total full-time equivalents (FTE).

"above-the-line" expenditures, such as story and script costs and wages for writers, directors, producers, actors, and performers.

While only qualified costs are eligible for the film tax credit, non-qualified costs that were incurred in New York State were also included in the analysis because the State would not have benefited from this non-qualified spending without the tax credit being in place. In other words, the economic benefits derived from non-qualified spending are entirely contingent on the qualified spending incentivized by the tax credit program. Therefore, any production and post-production spending occurring in New York State, whether qualified or non-qualified, was included in the analysis.

The following sections detail the economic impacts of the production and post-production tax credits on New York State as a whole, and by region. For the production credit, there are additional benefits granted to projects for spending that occurs outside of New York City. We show separately the economic impacts for New York City and the rest of New York State. For the post-production credit, the geographic distinctions are different. The state is divided into Downstate and Upstate regions, with Downstate corresponding to the Metropolitan Commuter Transportation District (MCTD),[21] and Upstate consisting of the remaining New York State counties.

Production Tax Credit

Table 5 shows aggregate spending in New York State in 2017 and 2018 associated with the production credit, as reported in tax credit applications. In total, credit-eligible projects accounted for over $7.8 billion in in-state spending. The vast majority of that amount—90%—occurred in New York City.

Table 5: Spending in NYS Associated with Production Credit, 2017 & 2018

Spending in NYS Associated with Production Credit (2017 & 2018)		
NYC Productions	$	7,023,570,675
NYS Outside NYC Productions	$	800,758,531
Total	$	7,824,329,207

Source: Empire State Development

Economic Impact of the Production Credit on New York State

The $7.8 billion in direct spending was inputted into the input-output model to generate the total impacts on the state in terms of jobs, earnings, and spending. Over the two-year period covering 2017 and 2018, Camoin Associates estimates the following impacts associated with the production tax credit (Table 6):

- Approximately 83,500 jobs in New York State, of which about 42,000 were directly related to production activities and 41,000 were a result of indirect economic activity.
- Approximately $4.9 billion in earnings by New York State workers, of which $2.4 billion was directly attributable to production activities and $2.5 billion was a result of indirect activity.[22]

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[21] Downstate is defined as the Metropolitan Commuter Transportation District (MCTD), which consists of the five boroughs of NYC, as well as Dutchess, Nassau, Orange, Putnam, Rockland, Suffolk, and Westchester counties. Upstate consists of the remaining counties in New York State.

[22] Note that the EMSI model provides the total number of jobs, whether they are part-time, full-time, or temporary. This is particularly important to note as it relates to the film industry in which there are many temporary jobs. While the model estimates average earnings per worker of $58,900, note that this includes the full range of employment from workers who may have worked only a portion of the year to those holding full-time jobs.

- Approximately $14.8 billion in spending in the New York State economy, of which about $7.8 billion was direct spending by credit-eligible projects and about $7 billion was indirect spending.[23]

Table 6: Production Credit - Impact on New York State, 2017 & 2018

Production Credit - Impact on New York State (2017 & 2018)			
	Direct	Indirect	Total
Jobs	42,184	41,341	83,525
Earnings	$ 2,366,098,405	$ 2,555,386,277	$ 4,921,484,682
Spending	$ 7,824,329,207	$ 7,001,306,031	$ 14,825,635,238

Source: Empire State Development, EMSI, Camoin Associates

Economic Impact of the Production Credit on New York City

A separate model was run to estimate the impact on New York City of NYC productions receiving production credits. Over the two-year period covering 2017 and 2018, Camoin Associates estimates the following impacts on New York City associated with the production tax credit (Table 7):

- Approximately 60,800 jobs in New York City, of which about 35,000 were directly related to production activities and 25,800 were a result of indirect economic activity.
- Approximately $3.95 billion in earnings by New York City workers, of which $2.12 billion was directly attributable to production activities and $1.83 billion was a result of indirect activity.
- Approximately $12 billion in spending in the New York City economy, of which about $7 billion was direct spending by credit-eligible projects and about $5 billion was indirect spending.

Table 7: Production Credit - Impact of NYC Productions on NYC, 2017 & 2018

Production Credit - Impact of NYC Productions on NYC (2017 & 2018)			
	Direct	Indirect	Total
Jobs	34,959	25,869	60,828
Earnings	$ 2,122,694,311	$ 1,825,517,107	$ 3,948,211,418
Spending	$ 7,023,570,675	$ 5,021,976,907	$ 12,045,547,583

Source: Empire State Development, EMSI, Camoin Associates

Economic Impact of the Production Credit on New York State outside of New York City

A third model was run to estimate the impact of productions outside of New York City receiving the production credit on the rest of New York State outside of New York City. Over the two-year period covering 2017 and 2018, Camoin Associates estimates the following impacts associated with the production tax credit (Table 8):

- Approximately 10,000 jobs in the rest of New York State, of which about 4,000 were directly related to production activities and 6,000 were a result of indirect economic activity.
- Approximately $440 million in earnings, of which $242 million was directly attributable to production activities and $198 million was a result of indirect activity.
- Approximately $1.3 billion in spending, of which about $801 million was direct spending by credit-eligible projects and about $524 million was indirect spending.

[23] Note that the earnings impact is also captured in the spending impact. As the production companies spend money on labor they are creating additional earnings.

Table 8: Production Credit – Impact of Productions Outside of NYC on NYS Outside of NYC, 2017 & 2018

Production Credit - Impact of Productions Outside of NYC on NYS Outside of NYC (2017 & 2018)			
	Direct	Indirect	Total
Jobs	5,913	4,021	9,934
Earnings	$ 241,962,026	$ 198,408,861	$ 440,370,887
Spending	$ 800,758,531	$ 523,883,331	$ 1,324,641,863

Source: Empire State Development, EMSI, Camoin Associates

Note that the impacts estimated by the individual models for New York City and the rest of New York State ***do not sum*** *to the total impacts estimated by the New York State model*. This is because the individual models do not take into account the economic exchanges between the two sub-regions. In other words, the model assessing the impact on NYC is only measuring the impact of NYC productions on NYC and therefore it does not account for the impact of NYC productions on other NYS locations, and vice versa. The economic exchanges between the two sub-regions accounts for the difference of 12,763 jobs in New York State and associated earnings and spending.

Post-Production Tax Credit

Table 9 shows aggregate spending in New York State in 2017 and 2018 associated with the post-production credit, as reported in tax credit applications. In total, credit-eligible projects accounted for close to $216 million in in-state spending. The overwhelming majority of that amount—98%—occurred in Downstate New York.

Table 9: Spending in NYS Associated with Post-Production Credit, 2017 & 2018

Spending in NYS Associated with Post-Production Credit (2017 & 2018)	
Downstate Activity	$ 211,804,518
Upstate Activity	$ 4,568,411
Total	$ 216,372,929

Source: Empire State Development

Economic Impact of the Post-Production Credit on New York State

The $216 million in direct spending was inputted in to the input-output model to generate the total impacts on the state in terms of jobs, earnings, and spending. Over the two-year period covering 2017 and 2018, Camoin Associates estimates the following impacts associated with the post-production tax credit (Table 10):

- Approximately 2,300 jobs in New York State, of which about 1,200 were directly related to production activities and 1,100 were a result of indirect economic activity.
- Approximately $136 million in earnings by New York State workers, of which $65 million was directly attributable to production activities and $71 million was a result of indirect activity.
- Approximately $410 million in spending in the New York State economy, of which about $216 million was direct spending by credit-eligible projects and about $194 million was indirect spending.

Table 10: Post-Production Credit – Impact on New York State, 2017 & 2018

Post-Production Credit - Impact on New York State (2017 & 2018)			
	Direct	Indirect	Total
Jobs	1,167	1,143	2,310
Earnings	$ 65,431,763	$ 70,666,304	$ 136,098,066
Spending	$ 216,372,929	$ 193,613,164	$ 409,986,093

Source: Empire State Development, EMSI, Camoin Associates

Economic Impact of the Post-Production Credit on Downstate

A second model was run to estimate the impact of the post-production credit on Downstate New York. Over the two-year period covering 2017 and 2018, Camoin Associates estimates the following impacts on Downstate associated with the post-production tax credit (Table 11):

- Approximately 2,100 jobs in Downstate, of which about 1,100 were directly related to production activities and 1,000 were a result of indirect economic activity.
- Approximately $132 million in earnings by Downstate workers, of which $64 million was directly attributable to production activities and $68 million was a result of indirect activity.
- Approximately $398 million in spending in the Downstate economy, of which about $212 million was direct spending by credit-eligible projects and about $186 million was indirect spending.

Table 11: Post-Production Credit – Impact of Downstate NY Activity on Downstate NY, 2017 & 2018

Post-Production Credit - Impact of Downstate NY Activity on Downstate NY (2017 & 2018)			
	Direct	Indirect	Total
Jobs	1,082	1,018	2,100
Earnings	$ 64,155,400	$ 68,004,724	$ 132,160,124
Spending	$ 211,804,518	$ 186,210,996	$ 398,015,514

Source: Empire State Development, EMSI, Camoin Associates

Economic Impact of the Post-Production Credit on Upstate

A final model was run to estimate the impact of the post-production credit on Upstate New York. Over the two-year period covering 2017 and 2018, Camoin Associates estimates the following impacts on Upstate associated with the post-production tax credit (Table 12):

- 66 jobs in Upstate New York, of which 42 were directly related to production activities and 24 were a result of indirect economic activity.
- Approximately $2.4 million in earnings, of which $1.4 million was directly attributable to production activities and $1.0 million was a result of indirect activity.
- Approximately $7.3 million in spending, of which about $4.6 million was direct spending by credit-eligible projects and about $2.8 million was indirect spending.

Table 12: Post-Production Credit – Impact of Upstate NY Activity on Upstate NY, 2017 & 2018

Post-Production Credit - Impact of Upstate NY Activity on Upstate NY (2017 & 2018)			
	Direct	Indirect	Total
Jobs	42	24	66
Earnings	$ 1,382,694	$ 1,037,020	$ 2,419,714
Spending	$ 4,568,411	$ 2,757,178	$ 7,325,589

Source: Empire State Development, EMSI, Camoin Associates

Note that the impacts estimated by the individual models for New York City and the rest of New York State ***do not sum*** *to the total impacts estimated by the New York State model.* This is because the individual models are not able to take into account the economic exchanges between the two sub-regions.

Total Economic Impact of the Film Tax Credit Program on New York State

The table below shows the combined impact of both the production and post-production tax credits on all of New York State. Over the two-year period covering 2017 and 2018, Camoin Associates estimates the following impacts on the State associated with the credits (Table 13):

- Approximately 85,800 jobs in New York State, of which about 43,400 were directly related to production activities and 42,500 were a result of indirect economic activity.
- Approximately $5.1 billion in earnings, of which $2.4 billion was directly attributable to production activities and $2.6 billion was a result of indirect activity.
- Approximately $15.2 billion in spending, of which about $8.0 billion was direct spending by credit-eligible projects and about $7.2 billion was indirect spending.

Table 13: Production and Post-Production Credit – Total Economic Impact on New York State, 2017 & 2018

Production and Post-Production Credit - Total Economic Impact on New York State (2017 & 2018)			
	Direct	Indirect	Total
Jobs	43,351	42,484	85,835
Earnings	$ 2,431,530,167	$ 2,626,052,581	$ 5,057,582,748
Spending	$ 8,040,702,136	$ 7,194,919,195	$ 15,235,621,331

Source: Empire State Development, EMSI, Camoin Associates

Additional Economic Activity

The New York State film industry tax credit programs have an impact beyond just what is calculated in the above sections. These additional impacts include: (a) support of film industry cluster-specific workforce and infrastructure development, and (b) film production-induced tourism. These impacts are not accounted for in the above economic impact calculations, but nevertheless have an impact on the film industry and the NYS economy.

Film Industry Workforce and Film Production Infrastructure Development

The film industry is clearly an important industry cluster for NYS. As with all clusters, there is a virtuous self-reinforcing cycle where groupings of like-minded businesses, workers and infrastructure serve to perpetuate the advantages of doing business in that location.

For example, as more productions occur in NYS, there are more employment opportunities, the skill level of the overall workforce is improved, and the industry as a whole benefits. As new productions come up, they have access to the high-quality workforce that has been built through the years.

Since the credit program was introduced, employment in the film industry in NYS is up by 55%, from 32,533 jobs in 2004 to 50,517 jobs in 2017, according to data from the Bureau of Labor Statistics. This is compared to a 12% increase in jobs in the state's economy overall. Table 14 highlights the top 10 occupations in the industry and how much they have grown since 2004. Producers and Directors comprise the largest share of film industry jobs, accounting for about 22% of jobs, followed by Film and Video Editors with 8% and Actors with 5% of jobs. Eight of the ten occupations experienced at least 20% job growth over this period.

Table 14: Top 10 Occupations in the Film Industry

Top 10 Occupations in the Film Industry								
SOC	Description	Employed in Film Industry (2004)	Employed in Film Industry (2018)	Change (2004 - 2018)	% Change (2004 - 2018)	% of Total Jobs in Film Industry (2018)	Median Hourly Earnings	Typical Entry Level Education
27-2012	Producers and Directors	4,317	13,389	9,072	210%	22%	$41.36	Bachelor's degree
27-4032	Film and Video Editors	1,619	4,877	3,258	201%	8%	$31.82	Bachelor's degree
27-2011	Actors	3,877	3,277	(600)	(15%)	5%	$18.44	Some college, no degree
27-4011	Audio and Video Equipment Technicians	1,533	2,447	914	60%	4%	$23.70	Postsecondary nondegree award
43-9061	Office Clerks, General	555	2,065	1,510	272%	3%	$15.32	High school diploma or equivalent
43-5061	Production, Planning, and Expediting Clerks	366	1,830	1,464	400%	3%	$23.71	High school diploma or equivalent
27-4031	Camera Operators, Television, Video, and Motion Picture	1,688	1,622	(66)	(4%)	3%	$26.83	Bachelor's degree
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	929	1,620	691	74%	3%	$13.47	No formal educational credential
27-3041	Editors	1,297	1,556	259	20%	3%	$30.07	Bachelor's degree
27-3043	Writers and Authors	431	1,215	784	182%	2%	$19.87	Bachelor's degree

Source: EMSI

Several workforce training programs have been implemented in response to New York's burgeoning film industry. For example, in collaboration with the New York City Department of Education and the Tribeca Film Festival, the Office of Media and Entertainment has implemented a curriculum for elementary, middle, and high school students to learn about media arts in the classroom. Working with the City of New York, non-profit Brooklyn Workforce Innovations developed the "Made in NY" program which recruits unemployed New Yorkers for jobs in the film industry, offering a training program that leads to certification and job placement. Bronx Community College will launch a film production training program in Winter of 2019. This 14-week program aims to train up to 100 student annually to work in union trade crafts like property, carpentry, and electric.[24]

[24] (ESD, 2018)

In addition, the state has focused on building diversity in the film and television industry, holding many events and creating initiatives to showcase opportunities and promote inclusion. These include the New York State Multicultural Creativity Summit, the Supplier Diversity Showcase, Pitch NY, and the HBO Diversity Roundtable. These events and initiatives serve to promote the inclusion of diverse voices in the entertainment industry.[25]

Some of the expansions and developments that have occurred recently to accommodate the growing film production industry include:

- In 2017, Marvel Television, the Walt Disney Company and Netflix completed the largest production project in New Your State history by filming 135 episodes of their live-action multi-series production based on Marvel characters.[26]
- York Studios (based in Maspeth) broke ground on a new Bronx campus in June of 2017, which will initially have five stages.[27]
- In August 2017, ESD and Broadway Stages closed on a deal to convert Staten Island's Arthur Kill Correctional Facility into five sound stages, creating more than 1,300 full-time jobs and 300 construction jobs.[28]
- NYCED and the Mayor's Office of Media and Entertainment (MOME) released an RFP to develop about 200,000 SF of space into a space for the television and film industry. Construction could happen as early as 2019.[29]
- The Sag Harbor Cinema Center broke ground June of 2018 after it was destroyed by a fire in 2016. The purpose of the center is to provide multiple uses for film arts, film history, and education. Construction is expected to finish 2020.[30]
- In July of 2017 RUPCO, an affordable housing advocacy nonprofit and community developer, and Stockade Works announced they will establish The Metro, an innovative 70,000 square-foot hub for film other creative uses by renovating the former MetLife Hall of Records in Kingston.[31]
- The Finger Lakes Regional Economic Development Council (FLREDC) announced a new film and animation facility, MAGIC Spell Studios, at the Rochester Institute of Technology in November of 2016. The facility is expected to create 35 to 50 jobs in the first five years and over 100 jobs in the following 10 years.[32]

These are just a selection of the investments that have been made in the hard infrastructure of the film industry in NYS. However, there are a host of non-eligible film productions[33] that currently occur in NYS that are largely a result of the virtuous cycle of the film industry's economic cluster in the state. In fact, these non-eligible productions account for a majority of the employment in the film industry cluster in NYS. Therefore, eligible productions that occur in the state due to the tax credit program are serving to maintain

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[25] (ESD, 2017)
[26] (ESD, 2017)
[27] (ESD, 2017)
[28] (ESD, 2017)
[29] (Lang, 2018)
[30] (ESD, 2018)
[31] (ESD, 2017)
[32] (ESD, 2016)
[33] As noted above, non-eligible productions exclude non-scripted productions such as documentaries and news broadcasts.

the viability of the entire economic cluster. Said another way, should NYS abandon its incentive programs and thus precipitate a departure of a portion of the cluster, the entire cluster is weakened, including the non-eligible jobs.

Quantifying this effect is extremely problematic and, at best, imprecise. Of the 54,188 New York State film industry jobs in 2018, approximately 12,000[34] (about 22%) are directly attributable to the tax credit program, while the remaining are therefore associated with non-eligible productions. To best understand the effect of losing non-eligible production activity on an order-of-magnitude basis, we will simply note that if NYS had shed even 10% of the cluster jobs associated with non-eligible production over the 2017–2018 period, it would have lost a total of 25,068 jobs, about $1.8 billion in earnings, and about $6.6 billion in spending (Table 15).[35]

Table 15: Economic Impact on NYS of Losing 10% of Ineligible Production Activity

Economic Impact on NYS of Losing 10% of Ineligible Production Activity			
	Direct	Indirect	Total
Jobs	8,454	16,614	25,068
Earnings	$ 848,985,159	$ 1,035,761,894	$ 1,884,747,053
Spending	$ 3,705,449,320	$ 2,895,956,434	$ 6,601,405,754

Source: Empire State Development, EMSI, Camoin Associates

Lost tax collections by New York State and New York City as a result of losing 10% of credit non-eligible production activity would total $746 million (Table 16).[36]

Table 16: Fiscal Impact of Losing 10% of Ineligible Production Activity

Fiscal Impact of Losing 10% of Ineligible Production Activity	
New York State Tax Collections	$ 327,391,153
New York City Tax Collections	$ 419,021,359
Total	**$ 746,412,512**

Source: Camoin Associates

Film Production Induced Tourism

Research suggests that the film industry has a positive impact on tourism, as people want to visit the places they have seen in popular film and television shows. Film-induced tourism can take a number of different forms ranging from tourists extending their stay at a destination to visit different sites featured in a movie or television show, to distinct visits to a location or country to see where the film was made, to visitors traveling to see where a film or television show is currently being made. All of this visitation generates revenue and employment that otherwise would not exist without the connection to the film industry.

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[34] A review of the industries that make up the direct jobs generated as a result of the tax credit program find that 12,000 are in the NAICS codes associated with the television and film industry as listed in footnote 11.

[35] 8,454 jobs was used as an input into the model. 8,454 = 54,188 * 78% * 10% * 2, where 54,188 is the total number of NYS film industry jobs, 78% is the share of those jobs associated with credit non-eligible activity, 10% is the hypothetical amount of lost non-eligible activity, and 2 is the number of years in the 2017–2018 period.

[36] Calculated using the proportion of Gross State Product (or Gross Regional Product) method as detailed in *Fiscal Impact of the Film Industry* section below. In calculating tax collections for New York City, we assumed that 93.4% of lost activity would be attributable to New York City, as New York City accounts for that amount of total industry sales.

A study conducted on tourism in Australia, New Zealand, and Kazakhstan after releases of movies that are either set or filmed in those locations (*Mad Max*, *The Lord of the Rings*, and *Borat*, respectively) found that there was evidence of an increase in tourism for a period following the release of a successful movie.[37] Additional research confirms the finding that television and movies can have a strong influence on the tourism industry.[38]

New York City is home to both one of the largest film industries and tourism industries in the world and these two industries complement each other well when tourists are able to visit the locations of scenes they are familiar with from television and movies. Tour companies are capitalizing on visitors' interest in these sites by organizing and promoting various tours to locations made familiar by shows such as *Sex and the City*, *Friends*, *Seinfeld*, and others. Additionally, live shows that film in New York City are also an attraction as people come to see *Saturday Night Live*, *The Tonight Show*, *The Today Show*, and many others filmed live.

It is clear that the robust film industry in NY supports the tourism industry in NYC; however, estimating the degree to which film is the driving factor for visitation is outside the scope of this analysis. In an attempt to better understand how the loss of the film industry would impact the tourism industry, we can conduct an order-of-magnitude assessment to provide an estimate for how the tax credit programs impact tourism industry employment. According to NYC & Company, there are about 383,385 jobs in New York City that are associated with the tourism industry. If we assume that film-induced tourism accounts for 1%[39] of total tourism in New York City, this would support 3,834 tourism jobs. If 22% of the jobs in the film industry are attributable to the tax credit programs (as calculated above), then we can assume that 22% of the 3,950 tourism jobs are also attributable to the tax credit programs. Based on this order-of-magnitude estimate, the tax credit programs account for approximately 843 jobs in the tourism industry in NYC (Table 17).

Table 17: Estimate of the Impact of Tax Credit Programs on Film Induced Tourism in NYC

Estimate of the Impact of Tax Credit Programs on Film Induced Tourism in NYC	
Total Tourism Related Jobs in NYC (2016)	383,385
Film Induced Tourism Jobs (1% of total)	3,834
Percent of Film Industry Resulting From Tax Credit Programs	22%
Film Induced Tourism Jobs Resulting from Tax Credit Programs	**843**

Source: Empire State Development, Camoin Associates

37 (Mitchell & Stewart, 2012)

38 http://www.bu.ac.th/knowledgecenter/epaper/jan_june2009/pdf/Walaiporn.pdf

39 This is just an estimate to provide an order-of-magnitude analysis. No surveys or other research has been done to qualify this percentage.

Fiscal Impact of the Film Industry

Beyond the economic impacts calculated above, there are also fiscal impacts of the film industry that result from increased economic activity and accrue in the form of additional tax revenue. To estimate tax collections, Camoin Associates calculated the proportion of film production spending associated with credit-eligible products relative to New York State's Gross State Product in 2017. This percentage was then applied to New York State's total tax collections in 2017 for each tax category to determine the portion of tax collections attributable to the film tax credit program.[40] This methodology is based on the assumption that the share of credit-related film industry spending relative to the NYS Gross State Product is approximately equal to the share of NYS tax collections attributable to the tax credit program. In other words, the film industry activity makes up a certain percentage of the state's total economic activity and therefore the film industry accounts for a similar percentage of the state's revenue. Table 18 details this calculation.

Table 18: Project Spending as a Percent of Gross State Product (GSP)

Project Spending as a Percent of Gross State Product (GSP)		
NYS 2017 Gross State Product (GSP)	$ 1,606,601,300,000	
	Project Spending	Percent of GSP
Production Credit	$ 14,825,635,238	0.92%
Post-Production Credit	$ 409,986,093	0.03%

Source: Bureau of Economic Analysis, Empire State Development, Camoin Associates

Camoin Associates estimates total tax collections by New York State in 2017 and 2018 resulting from the Production Tax Credit to be about $735 million, and tax collections resulting from the Post-Production Credit to be about $20 million (Table 19).

Table 19: Fiscal Impact on New York State

Fiscal Impact on New York State			
	A	B	C
	2017 NYS Tax Collections	Tax Collections Attributable to Production Credit (Col. A × 0.92%)	Tax Collections Attributable to Post-Production Credit (Col. A × 0.03%)
Individual Income Tax	$ 44,631,769,000	$ 411,859,699	$ 11,389,512
Corporate Income Tax	$ 4,026,353,000	$ 37,154,981	$ 1,027,479
General Sales Tax	$ 14,132,141,000	$ 130,410,680	$ 3,606,359
Selective Sales Tax	$ 11,230,442,000	$ 103,633,949	$ 2,865,879
License Taxes	$ 1,814,065,000	$ 16,740,100	$ 462,928
Other Taxes	$ 3,843,267,000	$ 35,465,473	$ 980,757
Total	**$ 79,678,037,000**	**$ 735,264,881**	**$ 20,332,915**

Source: 2017 Annual Survey of State Government Tax Collections, Camoin Associates

To determine the Return on Investment of the tax credit program, Camoin Associates compared total New York State tax collections in 2017 and 2018 attributable to the credit programs to the total credit amount projected to be issued for projects initiated during this period. New York State will issue an estimated $1.77 billion in production and post-production tax credits to projects initiated in 2017 and 2018 (Table 20).

[40] New York State total tax collections obtained from 2017 Annual Survey of State Government Tax Collections.

Table 20: Tax Credits Issued

Tax Credits Issued		
Production Credits	$	1,713,169,677
Post-Production Credits	$	55,806,987
Total	$	1,768,976,663

Source: Empire State Development

Tax credits are paid out beginning in the later of (a) the year after the project is complete, or (b) the year following the assigned tax credit allocation year[41]. Once the first payout year is established based on the foregoing, the actual payout is made according to the following schedule: for distributions of less than $1 million, the credit is paid out in a single year. For distributions valued between $1 and $5 million, the credit is paid out in equal sums over two years. For distributions of over $5 million dollars, the credit is paid out in equal sums over three years. Applying a discount rate of 2.6%[42] to the payout schedule results in a net present value (NPV) of $1,530,273,924 for the production credit and $53,619,575 for the post-production credit (Table 21 and

Table 22).

Table 21: Estimated Production Credit Payouts for 2017 and 2018 Projects

Estimated Production Credit Payouts for 2017 and 2018 Projects									
Year	2017	2018	2019	2020	2021	2022	2023	2024	2025
Production Credit	$ 3,393,580	$ 32,560,293	$ 161,596,530	$ 277,077,493	$ 391,998,497	$ 416,204,632	$ 273,177,040	$ 143,132,049	$ 14,109,469
NPV	**$ 1,530,273,924**								

Source: Empire State Development, Camoin Associates

Table 22: Estimated Post Production Credit Payouts for 2017 and 2018 Projects

Estimated Post Production Credit Payouts for 2017 and 2018 Projects				
Year	2018	2019	2020	2021
Post-Production Credit	$ 2,557,169	$ 26,167,862	$ 20,057,291	$ 7,024,665
NPV	**$ 53,619,575**			

Source: Empire State Development, Camoin Associates

As shown in the tables below, Camoin Associates estimates the return on investment (ROI) ratio of the Production Credit for the State of New York to be 0.48. In other words, for every $1 of tax credits paid out on an NPV basis, the State receives $0.48 in return in the form of tax collections. The State's ROI for the Post-Production tax credit is $0.38 for every dollar of incentive.

[41] According to the enabling statute, only $420 million of tax credits can be allocated to any one year. If more than that amount is earned in a given year, the state has to "borrow" from a future year's tax credit allocation to pay for a given year's eligible production credits. In the previous analyses completed for 2013-14 and 2015-16, the year the tax credit was earned was the same as the tax credit allocation year. However, in this analysis, the payout schedule is longer with production credits for 2017-18 because some of those earned credits will be assigned to future tax credit allocation years.

[42] Corresponds to the 5-year treasury yield.

Table 23: Production Credit - Return on Investment

Production Credit - Return on Investment	
New York State Tax Collections	$ 735,264,881
NPV of Estimated Production Credit Payout	$ 1,530,273,924
Return on Investment Ratio	0.48

Source: Empire State Development, Camoin Associates

Table 24: Post-Production Credit – Return on Investment

Post-Production Credit - Return on Investment		
New York State Tax Collections	$	20,332,915
NPV of Estimated Post-Production Credit Payout	$	53,619,575
Return on Investment Ratio		0.38

Source: Empire State Development, Camoin Associates

To arrive at the amount of taxes collected by New York City as a result of the film credit program, Camoin Associates used the same methodology that was used for NYS.[43] As detailed in Table 25 and Table 26, an estimated $788 million in taxes were collected that can be attributed to the program. Note that we imputed NYC post-production spending under the assumption that the NYC share of NYS post-production spending was similar to its share of production spending (about 90%).[44]

Table 25: Project Spending as a Percent of NYC Gross Regional Product (GRP)

Project Spending as a Percent of NYC Gross Regional Product (GRP)			
NYC 2017 Gross Regional Product (GRP)	$	879,117,762,879	
	Project Spending		Percent of GRP
Production Credit	$	12,045,547,583	1.37%
Post-Production Credit	$	368,027,242	0.04%

Source: EMSI, Empire State Development, Camoin Associates

[43] New York City GRP was obtained from EMSI, and total New York City tax collections were obtained from the New York Independent Budget Office.
[44] Post-production spending figures are not directly available for New York City, as post-production spending is divided into Upstate and Downstate spending.

Table 26: Fiscal Impact on New York City

Fiscal Impact on New York City			
	A	B	C
	FY17-18 NYC Tax Collections	Tax Collections Attributable to Production Credit (Col. A × 1.37%)	Tax Collections Attributable to Post-Production Credit (Col. A × 0.04%)
Real Estate Tax	$ 26,407,630,000	$ 361,833,621	$ 11,055,091
Personal Income Tax	$ 13,411,315,000	$ 183,759,946	$ 5,614,412
Sales and Use Tax	$ 8,650,472,000	$ 118,527,547	$ 3,621,368
Income Taxes, Other	$ 7,328,895,000	$ 100,419,486	$ 3,068,113
Other Taxes	$ 3,305,636	$ 45,293	$ 1,384
Total	**$ 55,801,617,636**	**$ 764,585,894**	**$ 23,360,369**

Source: New York Independent Budget Office, Camoin Associates

Camoin Associates also estimated tax collections by local taxing jurisdictions in New York State other than New York City. This includes counties, cities, towns, special districts, and school districts outside of NYC. Over $149 million in tax revenues can be attributed to these jurisdictions (Table 27 and

Table 28).[45]

Table 27: Project Spending as a Percent of Gross Regional Product (GRP) of NYS outside of NYC

Project Spending as a Percent of Gross Regional Product (GRP) of NYS outside of NYC		
NYS (balance) 2017 Gross Regional Product (GRP)	$ 727,483,537,121	
	Project Spending	Percent of GRP
Production Credit	$ 2,780,087,655	0.382%
Post-Production Credit	$ 41,958,851	0.006%

Source: EMSI, Empire State Development, Camoin Associates

Table 28: Fiscal Impact on NYS outside of NYC

Fiscal Impact on NYS outside of NYC			
	A	B	C
	2017 Tax Collections by NYS Local Governments (except NYC)	Tax Collections Attributable to Production Credit (Col. A × 0.382%)	Tax Collections Attributable to Post-Production Credit (Col. A × 0.006%)
All Taxes	$ 38,527,613,168	$ 147,233,767	$ 2,222,146

Source: US Census State and Local Government Finances, Camoin Associates

When combining the tax benefits accruing to NYS, NYC and local jurisdictions, the ROI ratio for the production credit is 1.08. In other words, for every $1 NYS pays in incentives, NYC receives about $0.50, other local governments receive $0.10 and NYS receives $0.48 in tax revenue (Table 29).

[45] 2017 total tax collections by local governments was estimated by adjusting the 2016 value from the US Census of Governments to reflect the change in NYS tax collections between 2016 and 2017.

Table 29: Production Credit – Return on Investment

Production Credit - Return on Investment		
New York State Tax Collections	$	735,264,881
New York City Tax Collections	$	764,585,894
All Other NYS Local Govt Tax Collections	$	147,233,767
Combined Tax Collection	**$**	**1,647,084,542**
NPV of Estimated Production Credit Payout	$	1,530,273,924
Return on Investment Ratio		**1.08**

Source: Camoin Associates

The ROI for the post-production credit is 0.86, meaning that for every $1 of tax credits issued, NYC receives $0.44, other local jurisdictions receive $0.04, and NYS receives $0.38 in tax revenue.

Table 30: Post-Production Credit – Return on Investment

Post-Production Credit - Return on Investment		
New York State Tax Collections	$	20,332,915
New York City Tax Collections	$	23,360,369
All Other NYS Local Govt Tax Collections	$	2,222,146
Combined Tax Collection	**$**	**45,915,429**
NPV of Estimated Post-Production Credit Payout	$	53,619,575
Return on Investment Ratio		**0.86**

Source: Camoin Associates

The Tax Revenue Effect

We note that, from 2013-2014 to 2017-2018, the Gross State Product has grown 23% while NYS tax collections have grown about 8%. This means that one million dollars of GSP in 2013-2014 corresponded to $56,200 in tax revenue for NYS, whereas in 2017-2018, that same one million dollars of GSP corresponds to only $49,590 in tax revenue for NYS.

Table 31: Comparison of Previous Reports: NYS Gross State Product to Total NYS Tax Collections

Comparison of Previous Reports: NYS Gross State Product to Total NYS Tax Collections			
	NYS Gross State Product	NYS Tax Collections	Ratio
2013-2014	$ 1,310,712,000,000	$ 73,667,171,000	0.05620
2015-2016	$ 1,441,003,000,000	$ 78,242,729,000	0.05430
2017-2018	$ 1,606,601,300,000	$ 79,678,037,000	0.04959

Source: Camoin Associates

The implication for the 2017-2018 report is that, holding all other things constant, the estimated tax revenues generated per million dollars of film industry activity would be less in 2017-2018 than that same million dollars of film industry activity in 2015-2016. Since the amount of tax credit would be approximately the same in both periods, the ROI Ratio must therefore be smaller in 2017-2018 versus the earlier period.

To illustrate that effect, we used the 2017-2018 production spend and applied it to the 2015-2016 figures of GSP/GRP and tax revenue for NYS, NYC and NYS-outside-of-NYC. Using the 2015-2016 figures, the ROI Ratio rises from our original figure of 1.08 to 1.12. We note that the 2015-2016 ROI Ratio was 1.15, so there are other factors at play but, clearly, the GSP-to-tax-revenue is playing a major role.

Table 32: 2017-2018 Production Credit ROI Using 2015 GSP and Tax Collections

2017-2018 Production Credit ROI Using 2015 GSP and Tax Collections		
New York State Tax Collections	$	804,993,578
New York City Tax Collections	$	874,661,220
All Other NYS Local Govt Tax Collections	$	144,326,989
Combined Tax Collection	**$**	**1,823,981,787**
NPV of Estimated Production Credit Payout	$	1,635,007,780
Return on Investment Ratio		**1.12**

Source: Camoin Associates

A second, more minor influence on the ROI Ratio for this analysis can be noted by the fact that applications for Television Series were at an all-time high for 2017-18 and represented about three-fourths of all activity in the program. Total spending for Television Series was slightly lower for each dollar of credit received when compared to Feature Films ($4.58 of spending per dollar of tax credit compared to $4.62, respectively). A slightly lower spending yield per dollar of credit exerts a minor downward pressure on the ROI.

Attachment A: What is an Economic Impact Analysis?

The purpose of conducting an economic impact study is to ascertain the total cumulative changes in employment, earnings and output in a given economy due to some initial "change in final demand". To understand the meaning of "change in final demand", consider the installation of a new widget manufacturer in Anytown, USA. The widget manufacturer sells $1 million worth of its widgets per year exclusively to consumers in Canada. Therefore, the annual change in final demand in the United States is $1 million because dollars are flowing in from outside the United States and are therefore "new" dollars in the economy.

This change in final demand translates into the first round of buying and selling that occurs in an economy. For example, the widget manufacturer must buy its inputs of production (electricity, steel, etc.), must lease or purchase property and pay its workers. This first round is commonly referred to as the "Direct Effects" of the change in final demand and is the basis of additional rounds of buying and selling described below.

To continue this example, the widget manufacturer's vendors (the supplier of electricity and the supplier of steel) will enjoy additional output (i.e. sales) that will sustain their businesses and cause them to make additional purchases in the economy. The steel producer will need more pig iron and the electric company will purchase additional power from generation entities. In this second round, some of those additional purchases will be made in the US economy and some will "leak out." What remains will cause a third round (with leakage) and a fourth (and so on) in ever-diminishing rounds of spending. These sets of industry-to-industry purchases are referred to as the "Indirect Effects" of the change in final demand.

Finally, the widget manufacturer has employees who will naturally spend their wages. As with the Indirect Effects, the wages spent will either be for local goods and services or will "leak" out of the economy. The purchases of local goods and services will then stimulate other local economic activity; such effects are referred to as the "Induced Effects" of the change in final demand.

Therefore, the total economic impact resulting from the new widget manufacturer is the initial $1 million of new money (i.e. Direct Effects) flowing in the US economy, plus the Indirect Effects and the Induced Effects. The ratio between Direct Effects and Total Effects (the sum of Indirect and Induced Effects) is called the "multiplier" and is often reported as dollar-of-impact per dollar-of-change. Therefore, a multiplier of 2.4 means that for every dollar ($1) of change in final demand, an additional $1.40 of indirect and induced economic activity occurs for a total of $2.40.

Key information for the reader to retain is that this type of analysis requires rigorous and careful consideration of the geography selected (i.e. how the "local economy" is defined) and the implications of the geography on the computation of the change in final demand. If this analysis wanted to consider the impact of the widget manufacturer on the entire North American continent, it would have to conclude that the change in final demand is zero and therefore the economic impact is zero. This is because the $1 million of widgets being purchased by Canadians is not causing total North American demand to increase by $1 million. Presumably, those Canadian purchasers will have $1 million less to spend on other items and the effects of additional widget production will be cancelled out by a commensurate reduction in the purchases of other goods and services.

Changes in final demand, and therefore Direct Effects, can occur in a number of circumstances. The above example is easiest to understand: the effect of a manufacturer producing locally but selling globally. If, however, 100% of domestic demand for a good is being met by foreign suppliers (say, DVD players being imported into the US from Korea and Japan), locating a manufacturer of DVD players in the US will cause a change in final demand because all of those dollars currently leaving the US economy will instead remain. A situation can be envisioned whereby a producer is serving both local and foreign demand, and an impact analysis would have to be careful in calculating how many "new" dollars the producer would be causing to occur domestically.

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Attachment C: Additional Research

"New York's Motion Picture Industry: A Statewide and Regional Analysis"

Published in June 2014, this report was prepared by the New York State Department of Labor and highlights the growth in traditional film industry sub-sectors as well as emerging industries. This report showed that employment in the Motion Picture and Video Industries between 2009 and 2013 (time period when the enhanced credit was made available) grew by nearly 30% in New York State and nearly 44% in New York City when, during that same period of time, the United States as a whole only saw a 6% increase. This report also summarizes findings of a report completed by the Boston Consulting Group in 2012 which estimated that approximately 130,000 people in New York City work in jobs directly related to film and TV. The BCG report also notes reality shows and TV series that depend on strong city infrastructure and are less mobile than one-time film productions.

In reporting on the impact of the production tax credit program, the study highlights the increase in the number of projects that occurred in NYS. In 2003 only 18 films and 7 television shows were shot in New York State but that number grew to 181 films and 29 TV series by 2013. Showcasing the importance of New York State in the United States film industry, the report states, "in 2014, a record 15 broadcast pilots will be filming in New York, more than anywhere else in the country, including Los Angeles."[46]

"The Media and Entertainment Industry in NYC: Trends and Recommendations for the Future"

This wide ranging report prepared by The Boston Consulting Group in October 2015 focuses on the impact of the film and television production industry on New York City as well as the thriving independent movie scene. The report provides information and data related to job growth, spending, and other trends in the industry and the resulting economic impact on New York City. The findings suggest that Media and Entertainment is a significant source of revenue and employment for NYC and employs over 290,000 FTEs.

The report states "NYC is one of only three cities in the world with a film community large enough to enable a production to be made without needing any roles to be brought in from outside – cast, above the line or below the line." The City's ability to attract productions is a result of a number of factors including: script, cost, preference of key talent, and availability of stages. While there are many benefits to working in NYC, the report also offers recommendations on ways to mitigate some of the challenges to shooting and doing post-production work in NYC.[47]

"Film tax credits, new media help revive L.A.'s entertainment economy"

Published in the Los Angeles Times and written by Richard Verrier in October 2015, the article talks about an upswing in filming in the area including a rise in commercial shoots from carmakers and other big advertisers and new TV shows from cable and broadcast networks as well as other new media outlets like Amazon, Netflix and others. The article cites California's new film incentives, and shifts in other states, as a significant reason why there has been a revival of L.A.'s entertainment economy. While the incentive in California has been enhanced, the state still cannot compete with states and countries that offer more generous tax credits for large blockbuster films.[48]

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[46] (New York State Department of Labor, Division of Research and Statistics, Bureau of Labor Market Information, 2014)

[47] (The Boston Consulting Group, 2015)

[48] (Verrier, 2015)

"Some states yell, 'Cut!' on film tax credits"

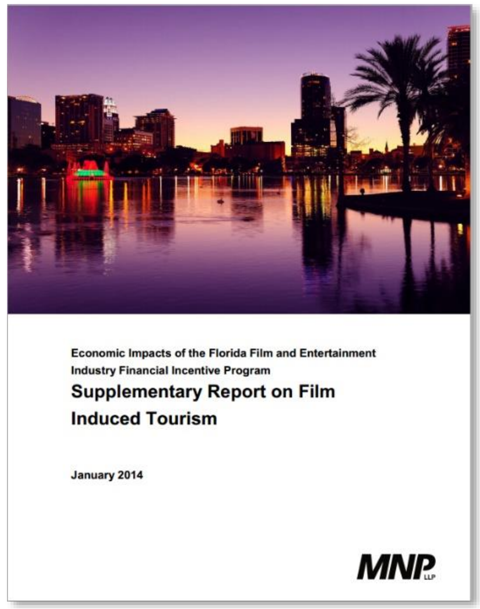
This article, written by Elaine Povice for the Pew Charitable Trusts, focuses on the changes in film industry tax credits that have occurred throughout the United States in recent years. Some states have been expanding their offerings, like California, while others are terminating their programs like Alaska. The article also states that studios are shopping around when deciding where to locate their productions in order to take advantage of the best credit programs. Production managers state that the tax incentives are one of the first things they consider when deciding where to shoot.

"State Film Production Incentives & Programs"

This document, published in January 2018, provides a brief summary of the growth of film industry incentives in the United States and provides an updated list of the types of incentives offered. This document was helpful in understanding how New York State relates to the other states in terms of incentives being offered.

"Economic Impacts of the Florida Film and Entertainment Industry Financial Incentive Program: Supplementary Report on Film Induced Tourism"

In addition to an analysis of the incentive program, Florida commissioned a report in January 2014 that looked specifically at how the film industry impacted the tourism industry in a state with a large existing tourism industry. This report is particularly interesting because, like New York City, Florida has a strong tourism industry even without film-induced visitation. The report found that between 5% and 19.5% of all visitors to Florida are influenced in whole or in part by film and/or television. Based on this range of direct impacts, it is clear that the film and entertainment industry is a significant contributor to the economy. The survey was based on visitors who had been to Florida in the past year and did not include information about the specifics of their travel.



This report also conducted a state and local government return on investment calculation to compare the amount of tax credits issued with the tax revenue generated. The analysis found that state and local governments ROI is between 10 and 38, in other words for every $1 of tax credit issued the state and local governments earn between $10 and $38 in tax revenue.[49]

"Economic Impacts of the Louisiana Motion Picture Investor Tax Credit"

Completed in 2015 by HR&A Advisors, Inc., this report was commissioned by the Louisiana Film and Entertainment Association and the Motion Picture Association of America to study the impact of the Louisiana State Motion Picture Investor Tax Credit. First introduced in 2002 as a way to enhance the state's competitiveness as a place for motion picture and television production, the state currently provides a 30% base tax credit on qualified production spending and another 5% credit for payroll expenditures to Louisiana residents. The study found that following the enactment of the tax credit program, the state's motion picture and television employment increased by 595% while the employment in the industry in the

[49] (MNP, LLP, 2014)

US only increase by 12.4%. The study also found that 14.5% of domestic, out-of-state, visitors who recently traveled to Louisiana were induced by the motion picture or television industry.[50]

"A Description of the Film Tax Credit and Film Industry in Georgia"

Prepared by the Fiscal Research Center in 2016, this policy brief provides a summary of Georgia's film tax credit program and how it has contributed to the state's rise in prominence in the film industry. The brief goes on to say that in 2015, Georgia law makers decided to limit their film incentive program while other states, including Michigan and Alaska, have decided to terminate their programs. The article states that the reason that there is hesitation around these types of tax credit programs is that "the lost tax revenues are very well defined and visible, while the benefits from employment and overall economic growth are much harder to quantify". The article cites an analysis conducted by the Georgia Department of Economic Development that found that there were hundreds of feature films, commercials, and television productions shot in Georgia resulting in an overall economic impact of $6 billion for the state.[51]

"More States Abandon Film Tax Incentives as Programs' Ineffectiveness Becomes More Apparent"

This article written by the Tax Foundation in June 2011 summarizes some of the controversies surrounding incentive programs in the United States and specifically whether the incentives for the film industry are effective in their effort to encourage economic growth and raise tax revenue. The article highlights states that have suspended or eliminated their programs, states that have reduced their available incentives, as well as the states that have expanded or strengthened their program. The recommendation of the report is that states require reporting about the amount of incentives provided per Full-Time Equivalent job created and that the effectiveness of the programs be reviewed periodically.[52]

"The Economic Impact of the UK Film Industry"

This report by Oxford Economics studied the film industry in the United Kingdom, the impact of the film industry, and the role that the Film Tax Relief program (incentive program) plays in sustaining the film industry in the UK. The report estimates that, without the tax relief program, film production in the UK would decrease by 71%. The report also finds that the program has a positive return on investment (£1 of incentive generates £12 in GDP), has led to significant investment in studios and other infrastructure, and has generated tourism from overseas.[53]

"Lights, Camera, but No Action? Tax and Economic Development Lessons from State Motion Picture Incentive Programs"

Published in the American Review of Public Administration, this report by Michael Thom attempts to evaluate the impact of motion picture incentive (MPI) programs on the ability for states to entice film and television productions out of California and New York. The report summarizes that there are 30 states that offer tax credit programs (18 offer transferable credits and 12 offer refundable credits) and 32 offer tax waivers including sales tax waivers and/or lodging tax waiver.

The findings of the analysis highlighted that domestic and foreign competition for the motion picture related jobs and spending has created a situation where state governments are spending billions of dollars on MPI programs. The statistical analysis found that states' efforts to entice entertainment industry

50 (HR&A Advisors, Inc, 2015)
51 (Small & Wheeler, 2016)
52 (Henchman, 2011)
53 (Oxford Economics, 2012)

jobs out of California and New York had “little to no sustained impact on employment or wage growth and that none of the incentives affected motion picture industry GSP or concentration.” Another finding was that transferable credits had small but positive and sustained impacts on employment growth, but no effect on wages whereas refundable credits had no effect on employment but positive yet temporary influence on wages.[54]

“Fade to Black? Exploring Policy Enactment and Termination Through the Rise and Fall of State Tax Incentives for the Motion Picture Industry”

This report was published in the American Politics Research journal in August 2016 and takes a close look at the Motion Picture Incentive programs enacted and/or repealed in 45 states. The analysis finds that, while enactments were often a reaction to rising unemployment and national trends, many states found it hard to terminate the programs once unemployment started falling due to the influence of incentive spending. The report states “tax incentives are durable – most MPIs persist despite skepticism over their effectiveness- but not immortal, and the conditions influencing enactment and termination are not consistently mirror images of each other”.[55]

“California Film & Television Tax Credit Program 3.0”

The California Film & Television Tax Credit Program 3.0 was signed into law in June of 2018 and is run by the California Film Commission (CFC). Program 3.0 will allocate $330 million per year from July 2020 through June 2025. The current Program 2.0 sunsets in June 2020. Highlights include:

- Creating a pilot program for training Californians from under-served communities for careers in the skilled craft occupations in motion picture and television productions. Program is funded by a fee accessed on approved applicants.
- Reducing proportion of credits for the relocating TV category (from 20% to 17%), increases the amount of credits for the independent film category (from 5% to 8%), and splits the independent film “pot” into two categories – under $10 million and over $10 million budgets.
- Allowing an additional 5% credit on wages paid to individuals who live and work on qualified productions outside the Los Angeles 30-mile zone.[56]

"’Cut - and That's a Wrap’ - The Film Industry's Fleecing of State Tax Incentive Programs”

This August 2017 report published in the Akron Law Review by Randle Pollard illustrates the problem when many states compete against each other for domestic film production. It argues that, “many states are wasting tax revenue on tax incentives to the film industry that do not result in net economic growth.” It provides a framework for those states looking to reexamine their tax-incentive programs to be economically effective. It states the main issues with measuring the economic impact of programs include the failure to collect accurate data and how states measure job creation.[57]

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[54] (Thom, 2016)
[55] (Thom & An, 2016)
[56] (Film & TV Tax Credit Program 3.0, 2019)
[57] (Pollard, 2017)

"How States Are Improving Tax Incentives for Jobs and Growth: A national assessment of evaluation practices"

This May 2017 report by the Pew Charitable Trust outlines the states that are leaders in tax incentive evaluation, those that are making progress by passing legislation, and those that are trailing. New York is identified as a "trailing" state because it does not have a regular evaluation across all tax incentives.[58]

"Time to Yell "Cut?" An Evaluation of the California Film and Production Tax Credit for the Motion Picture Industry"

Written by Michael Thom of the University of Southern California, this article appeared in the of The California Journal of Politics & Policy in 2018. By studying motion picture industry employment in California from 1991 through 2016, the author determines the impact of the Film and Production Tax Credit and competing incentives offered by other governments. Thom finds the tax credit had no significant effect on changes in three occupational categories associated with the motion picture industry. Thom finds the motion picture industry employment in California instead tracks the national labor market. Recommendations advise that California policymakers should eliminate the Film and Production Tax Credit as soon as possible.[59]

[58] (The Pew Charitable Trusts, 2017)
[59] (Thom, 2018)