ECONOMIC IMPACT

OF THE FILM INDUSTRY IN NEW YORK STATE, 2019 & 2020

Empire State Development

PREPARED BY:

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ABOUT CAMOIN 310

Camoin 310 has provided economic development consulting services to municipalities, economic development agencies, and private enterprises since 1999. Through the services offered, Camoin 310 has served EDOs and local and state governments from Maine to California; corporations and organizations that include Amazon, Lowes Home Improvement, FedEx, 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 over 1,000 projects in 40 states and garnered attention from national media outlets including Marketplace (NPR), Crain's New York Business, 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 Richmond, VA; Portland, ME; Boston, MA; 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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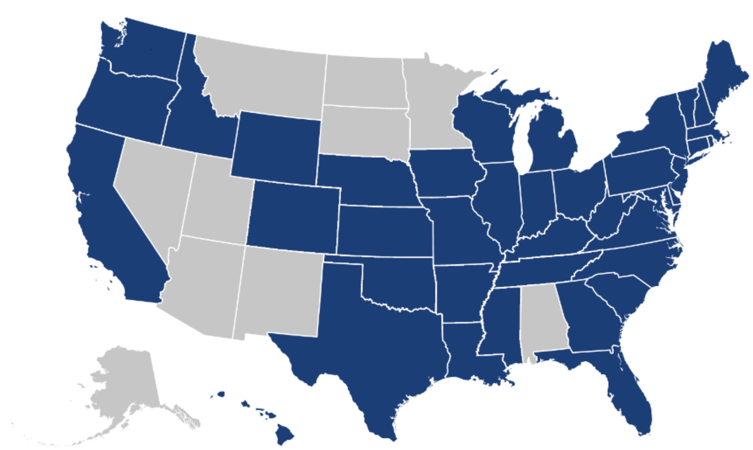

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EXECUTIVE SUMMARY

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 on 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 310 was hired by ESD to complete this review for years 2019 and 2020. 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 other 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 a literature review, data analysis, reviews of similar reports of the subject, and interviews with industry professionals. The findings of this research continue to support the theory that the tax credit program in NYS has been a driver of economic activity in the film industry. Additionally, given new production costs that are emerging as a result of COVID-19, the tax credit program will be an important factor in location decisions and cost considerations.

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 2019 and 2020. Those direct impacts are then run through an economic impact model to estimate the indirect and induced impacts resulting from business-to-business purchases and from employees spending a portion of their wages local. The sum of the direct, indirect, and induced impacts is the total economic impact of the tax credit programs.

Table 1 and Figure 1, below, summarize the combined impact of the Film Production Tax Credit and the Post-Production Tax Credit during years 2019 and 2020.

[1] Camoin 310 also completed the 2013/2014, 2015/2016, and 2017/2018 impact analyses.

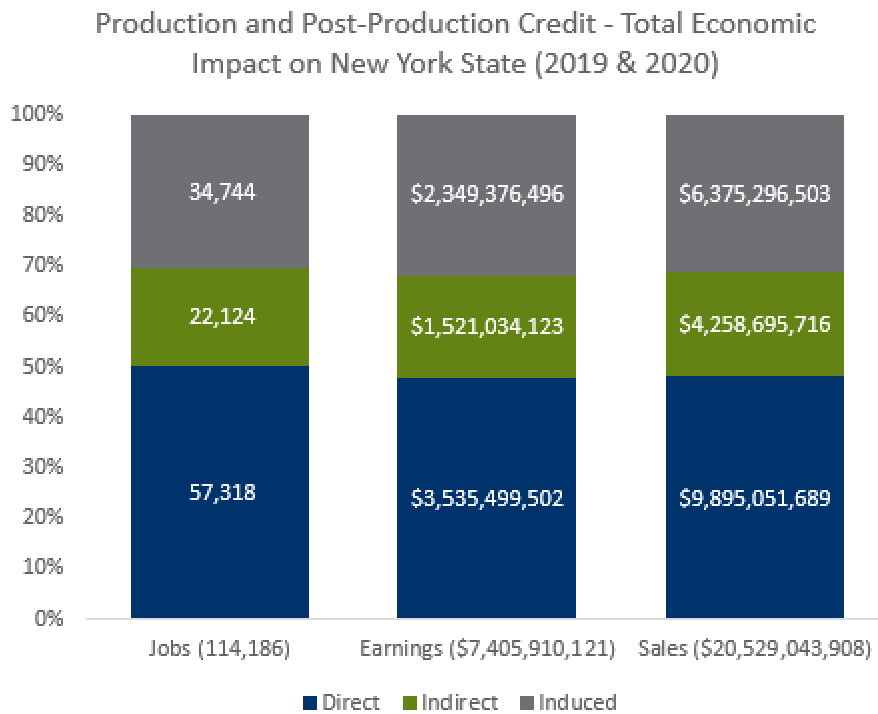
Table 1

Production and Post-Production Credit - Total Economic Impact on New York State (2019 & 2020)

	Jobs	Earnings	Spending
Direct	57,318	$3,535,499,502	$9,895,051,689
Indirect	22,124	$1,521,034,123	$4,258,695,716
Induced	34,744	$2,349,376,496	$6,375,296,503
Total	**114,186**	**$7,405,910,121**	**$20,529,043,908**

Source: Empire State Development, Emsi, Camoin 310

Figure 1



Source: Empire State Development, Emsi, Camoin 310

In total, the Film Production Tax Credit and the Post-Production Tax Credit programs generated nearly $9.9 billion in direct spending in New York State over the two-year period of 2019 and 2020. This direct spending resulted in 114,186 total jobs,[2] over $7.4 billion in earnings, and over $20.5 billion in total spending throughout the New York State economy.[3] Since these impacts cover a two-year period (2019-2020), we can annualize the impacts by dividing by two to find that collectively, the credits supported over 57,000 jobs, over $3.7 billion in earnings, and nearly $10.3 billion in spending each year in New York State.[4]

[2] A "job" is equal to one person employed for some amount of time (part-time, full-time, or temporary) during 2019 or 2020.
[3] Note that the earnings impact is also captured in the spending impact. As production companies spend money on labor, they are creating additional earnings.
[4] As has been done in the previous years' reports, this analysis includes all projects for which tax credit applications had been submitted as of December 24, 2020 and does not take into account the many likely project postponements that occurred in 2020 as a result of COVID-19. More information on COVID-19's impact on the industry and this analysis is available in Attachment D of the full report.

ADDITIONAL IMPACTS

The New York State film industry tax credit programs have an impact beyond what is calculated in the economic impact section, including support of film industry cluster-specific workforce, infrastructure development, and film production induced tourism. These impacts are not accounted for in the economic impact calculations but nevertheless have an impact on the film industry and the New York State 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. 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 would otherwise 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 NYS, NYC, and other local jurisdictions. Based on the activity that was associated with the film industry during 2019 and 2020, it is estimated that NYS, NYC, and other local jurisdictions received $2.1 billion in additional tax revenue from the Film Production Tax Credit activity and NYS, NYC, and other local jurisdictions received an additional $93.8 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 2019-2020 period the state offered nearly $2.2 billion in incentives, to be paid out over several years following the completion of the projects (Table 2).

Table 2

Tax Credits Issued	
Production Credits	$2,098,369,562
Post-Production Credits	$91,451,008
Total	**$2,189,820,570**

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.[5] When combining the tax benefits that accrue to NYS, NYC, and other New York local governments, the ROI ratio for the production tax credit is 1.04. In other words, for every $1 that NYS pays in incentives, NYS, NYC, and local jurisdictions receive a total of $1.04 in tax revenues.[6]

Table 3

Production Credit - Return on Investment	
New York State Tax Collections	$1,043,095,949
New York City Tax Collections	$1,010,171,603
All Other NYS Local Govt Tax Collections	$93,987,578
Combined Tax Collection	**$2,147,255,130**
NPV of Estimated Production Credit Payout	$2,066,039,606
Return on Investment Ratio	**1.04**

Source: Camoin 310

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 is 1.03, meaning that for every $1 of tax credits issued, NYS, NYC, and other local jurisdictions receive $1.03 in tax revenue.[7]

Table 4

Post-Production Credit - Return on Investment	
New York State Tax Collections	$42,928,155
New York City Tax Collections	$46,416,552
All Other NYS Local Govt Tax Collections	$4,478,481
Combined Tax Collection	**$93,823,188**
NPV of Estimated Post-Production Credit Payout	$90,886,584
Return on Investment Ratio	**1.03**

Source: Camoin 310

CONCLUSION

During the 2019-2020 study period, NYS invested a total of $2,156,926,190 (net present value) in incentives through the Production Tax Credit and the Post-Production Tax Credit to be paid out over a period from 2021 to 2029. In exchange, NYS, NYC, and local jurisdictions will directly receive $2,241,078,318 in total tax revenue while supporting over 57,000 jobs, $3.7 billion in earnings, and $10.3 billion in spending per year throughout New York State.

[5] The NPV is used because the tax collections from the industry spending and employment is occurring during the 2019/2020 time period whereas the tax credits are paid out over a period of several years that will extend well beyond 2020.
[6] NYC receives about $0.49, other local jurisdictions receive $0.05, and NYS receives $0.50.
[7] NYC receives about $0.51, other local jurisdictions receive $0.05, and NYS receives $0.47.

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 310 was hired by ESD to complete this review for years 2019 and 2020.[8]

In order to complete this analysis Camoin 310 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 New York State.

The following report provides background on the tax credit programs, calculates and analyzes the economic and fiscal impact of the program in New York State, and 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

As outlined in the previous impact analyses conducted by Camoin 310, the NYS Film tax Credit Program[9] was first established in 2004 and 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"[10] expenditures. In 2008, the program was extended and expanded to a 30% credit on below-the-

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[8] Camoin 310 also completed the 2013/2014, 2015/2016, and 2017/2018 impact analyses. This report is considered an update of the figures to provide easy comparison between the years.

[9] 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.

[10] "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.

line expenditures. The program has been extended a number of times, most recently for the period through 2025. The current regulations for the program make benefits eligible for production and post-production costs, including a fully refundable credit of 25% (additional benefits available for projects in NYS but outside of NYC[11]) of qualified production and post-production costs incurred in NYS. The credit was lowered from 30% to 25% as of April 1, 2020, which falls within the period of study of this report. Other recent changes to the program include the strengthening of the definition of "qualified films" and the implementation of minimum spending requirements of $1.0 million for Downstate productions and $250,000 for Upstate productions.

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.

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.

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.

LITERATURE REVIEW

As part of the research process, Camoin 310 reviewed report and articles on the film industry and the associated incentive program in New York State and throughout the United States that have been published since the 2017-2018 impact analysis was released. This research provided us with an in-depth understanding of how and why the tax credit programs came to be, how they have changes, and the role that they play in growing the film industry.

In 2015, a report was released by Empire State Development that was prepared by Camoin 310 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; and a third report was released in 2019 for the impact of the program in 2017 and 2018. The 2013/2014, 2015/2016, and 2017/2018 analyses followed the same methodology being employed as this 2019/2020 report.

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.

Key findings of the literature review:

- Research continues to draw mixed conclusions about the effectiveness of entertainment incentive programs on job and investment growth. Incentive programs remain controversial and oversight remains important to ensure that programs are meeting their goals.

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[11] 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.

- Within the production space, episodic content has continued to grow. Beyond the growing demand for television shows caused by the rise in popularity of streaming services, marketers have begun to think of commercial ad campaigns through an episodic lens as well.
- Streaming services have disrupted the television and film markets, with operators such as Netflix, Amazon Prime, and Hulu continuing to expand production of their own original shows. As streaming services now tend to release their original shows by the season, rather than by the episode, consumers have become accustomed to having the ability to consume stories on demand without commercial interruptions.
- COVID-19 disrupted the global film industry and has accelerated transformations that were already occurring in movie production, distribution, and consumption. Although production has now resumed where possible, uncertainty remains, particularly around consumers' hesitance to consuming content in public venues.[12]
- In addition to forcing the industry to adapt to new consumer behaviors and habits, COVID-19 will have an impact on the actual content that is produced. Given ongoing restrictions and COVID-19 protocols, there will be little to no crowd scenes in new movies and television episodes, shooting in real-world locations will be limited, on-screen romance will be less common, and independent films will be scaled back.

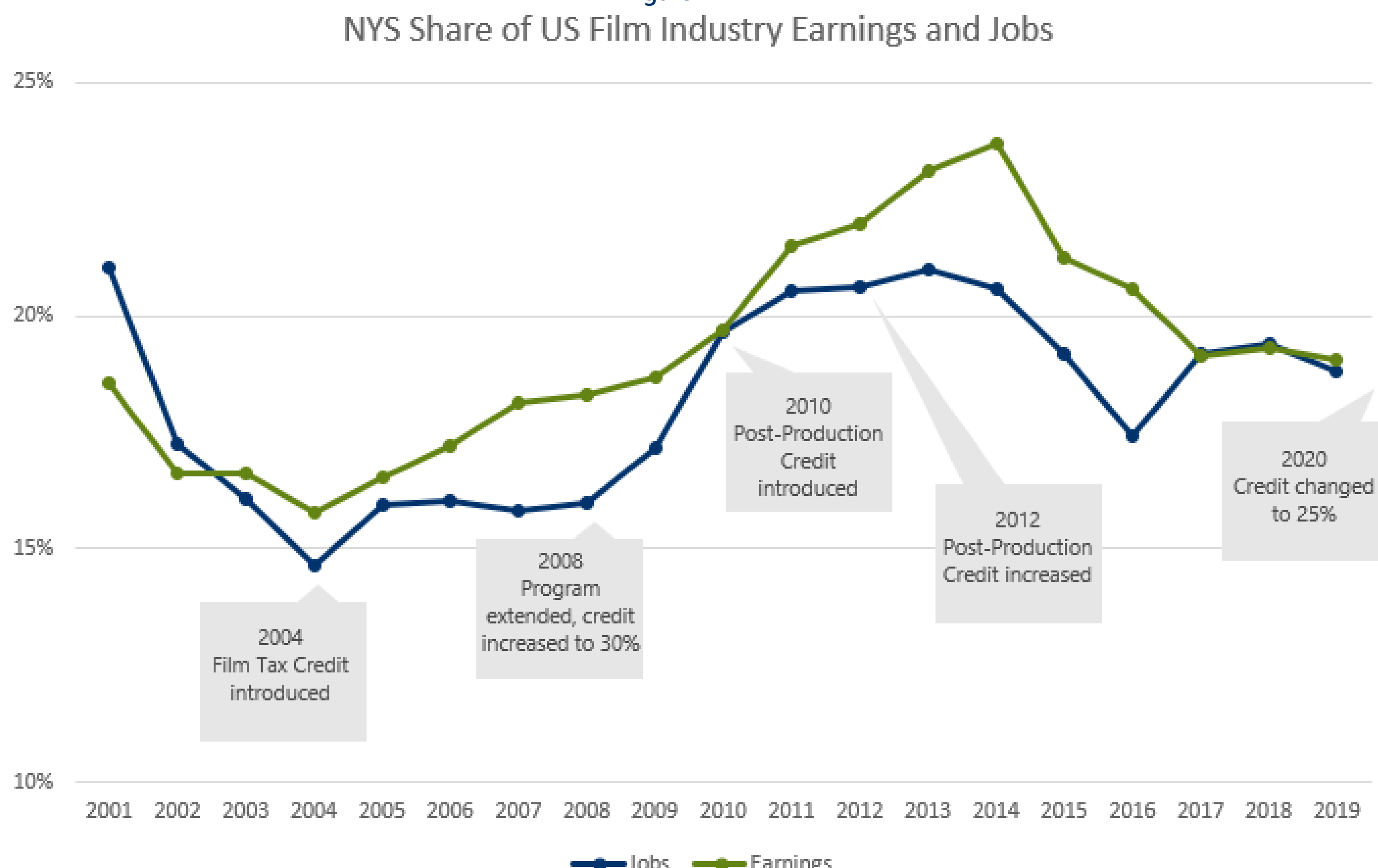
[12] For more information on COVID-19 impacts, see Attachment D.

DATA ANALYSIS

As shown in Figure 2, New York State began to lose film industry[13] 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.

As outlined in the 2017-2018 impact analysis conducted by Camoin 310, the state introduced its 10% film credit program in 2004. This had the effect of creating new jobs and investment in New York, and was enhanced to 30% in 2008. The state's share of film jobs 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%. Since then, New York's share of industry jobs have been relatively flat, although slightly under 19% in 2019. Earnings peaked in 2014 at 2014% and now sit around 19%, like jobs.

Figure 2



Source: U.S. Bureau of Labor Statistics

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[13] The film industry is defined as NAIC 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. Therefore, the impact listed is most likely a conservative estimate.

ECONOMIC IMPACT ANALYSIS

The New York State production and post-production credits have 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. "Induced Impacts" are 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 in New York State.

METHODOLOGY

Empire State Development provided Camoin 310 with production and post-production spending figures for credit-eligible projects produced during 2019 and 2020. These were projects for which tax credit applications had been submitted as of December 24, 2020. 2020 was a unique year in which many productions were postponed or cancelled due to the COVID-19 pandemic and related business and industry lockdowns, however all applications submitted in 2019 and 2020 were included in this analysis to maintain consistency with previous reports. For more information on COVID-19's impact on the industry and this analysis, see Attachment D.

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 310 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 "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 benefitted 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)[14], and Upstate consisting of the remaining New York State counties.

PRODUCTION TAX CREDIT

Table 5 shows aggregate spending in New York State in 2019 and 2020 associated with the production credit, as reported in tax credit applications. In total, credit-eligible projects accounted for over $9.5 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 (2019 & 2020)

NYC Productions	$8,632,329,537
NYS Outside NYC Productions	$871,592,420
Total	**$9,503,921,957**

Source: Empire State Development

ECONOMIC IMPACT OF THE PRODUCTION CREDIT ON NEW YORK STATE

The $9.5 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 2019 and 2020, Camoin 310 estimates the following impacts associated with the production tax credit (Table 6):

- Approximately 109,672 jobs in New York State, of which about 55,000 were directly related to production activities and 55,000 were a result of indirect and induced economic activity.
- Approximately $7.1 billion in earnings by New York State workers, of which $3.4 billion was directly attributable to production activities and $3.7 billion was a result of indirect activity.[15]
- Approximately $19.7 billion in spending in the New York State economy, of which about $9.5 billion was direct spending by credit-eligible projects and about $10.2 billion was indirect and induced spending.

Table 6

Production Credit - Impact on New York State (2019 & 2020)

	Jobs	Earnings	Spending
Direct	55,052	$3,395,748,948	$9,503,921,957
Indirect	21,249	$1,460,910,974	$4,090,358,799
Induced	33,371	$2,256,510,787	$6,123,294,991
Total	**109,672**	**$7,113,170,710**	**$19,717,575,746**

Source: Empire State Development, Emsi, Camoin 310

[14] 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.
[15] 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 $64,900, 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.

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 of 2019 and 2020, Camoin 310 estimates the following impacts on New York City associated with the production tax credit (Table 7).

- Approximately 79,000 jobs in New York City, of which about 44,000 were directly related to production activities and 34,000 were a result of indirect and induced economic activity.
- Approximately $5.8 billion in earnings by New York City workers, of which $3.1 billion were directly attributable to production activities and $2.7 billion were a result of indirect and induced activity.
- Approximately $16.0 billion in spending in the New York City economy, of which about $8.6 billion was direct spending by credit-eligible projects and about $7.4 billion was indirect and induced spending.

Table 7

Production Credit - Impact of NYC Productions on NYC (2019 & 2020)

	Jobs	Earnings	Spending
Direct	44,457	$3,084,329,194	$8,632,329,537
Indirect	16,123	$1,284,493,945	$3,589,456,188
Induced	18,188	$1,410,936,018	$3,818,751,666
Total	**78,768**	**$5,779,759,156**	**$16,040,537,391**

Source: Empire State Development, Emsi, Camoin 310

ECONOMIC IMPACT OF THE PRODUCTION CREDIT ON NEW YORK STATE OUTSIDE OF NYC

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 of 2019 and 2020, Camoin 310 estimates the following impacts associated with the production tax credit (Table 8):

- Approximately 12,000 jobs in the rest of New York State, of which about 7,000 were directly related to production activities and 5,000 were a result of indirect and induced economic activity.
- Approximately $570.7 million in earnings, of which $311.4 million were directly attributable to production activities and $259.2 million were a result of indirect and induced activity.
- Approximately $1.6 billion in spending, of which about $871.6 million was direct spending by credit-eligible projects and about $690.2 million was indirect and induced spending.

Table 8

Production Credit - Impact of Productions Outside of NYC on NYS Outside of NYC (2019 & 2020)

	Jobs	Earnings	Spending
Direct	7,459	$311,419,754	$871,592,420
Indirect	2,124	$101,604,005	$273,575,349
Induced	2,774	$157,626,255	$416,619,198
Total	**12,357**	**$570,650,014**	**$1,561,786,967**

Source: Empire State Development, Emsi, Camoin 310

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.

POST-PRODUCTION TAX CREDIT

Table 9 shows aggregate spending in New York State in 2019 and 2020 associated with the post-production credit, as reported in tax credit applications. In total, credit-eligible projects accounted for over $391 million in in-state spending. The overwhelming majority of that amount – 99% – occurred in Downstate New York.

Table 9

Spending in NYS Associated with Post-Production Credit (2019 & 2020)

Downstate Activity	$388,188,999
Upstate Activity	$2,940,733
Total	**$391,129,732**

Source: Empire State Development

ECONOMIC IMPACT OF THE POST-PRODUCTION CREDIT ON NEW YORK STATE

The $391 million in direct spending was input 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 2019 and 2020, Camoin 310 estimates the following impacts associated with the post-production tax credit.

- Approximately 4,500 jobs in New York State, of which about 2,300 were directly related to post-production activities and 2,200 were a result of indirect and induced economic activity.
- Approximately $293 million in earnings by New York State workers, of which $140 million was directly attributable to post-production activities and $153 million was a result of indirect activity.[16]
- Approximately $811 million in spending in the New York State economy, of which about $391 million was direct spending by credit-eligible projects and about $420 million was indirect and induced spending.

Table 10

Post-Production Credit - Impact on New York State (2019 & 2020)

	Jobs	Earnings	Spending
Direct	2,266	$139,750,554	$391,129,732
Indirect	875	$60,123,149	$168,336,918
Induced	1,373	$92,865,709	$252,001,512
Total	**4,514**	**$292,739,412**	**$811,468,162**

Source: Empire State Development, Emsi, Camoin 310

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 2019 and 2020, Camoin 310 estimates the following impacts on Downstate associated with the post-production tax credit (Table 11):

- Approximately 4,100 jobs in Downstate, of which about 2,100 were directly related to post-production activities and 2,000 were a result of indirect and induced economic activity.

[16] 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 $68,000, 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 $287 million in earnings by Downstate workers, of which $139 million was directly attributable to post-production activities and $148 million was a result of indirect and induced activity.
- Approximately $794 million in spending in the Downstate economy, of which about $388 million was direct spending by credit-eligible projects and about $406 million was indirect and induced spending.

Table 11

Post-Production Credit - Impact of Downstate NY Activity on Downstate NY (2019 & 2020)

	Jobs	Earnings	Spending
Direct	2,102	$138,699,833	$388,188,999
Indirect	805	$59,801,272	$167,146,046
Induced	1,197	$88,364,697	$238,812,447
Total	**4,105**	**$286,865,802**	**$794,147,493**

Source: Empire State Development, Emsi, Camoin 310

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 2019 and 2020, Camoin 310 estimates the following impacts on Upstate associated with the post-production tax credit (Table 12):

- Approximately 51 jobs in Upstate, of which about 34 were directly related to post-production activities and 17 were a result of indirect and induced economic activity.
- Approximately $1.9 million in earnings by Upstate workers, of which $1 million was directly attributable to post-production activities and the rest was a result of indirect and induced activity.
- Approximately $5.1 million in spending in the Upstate economy, of which about $2.9 was direct spending by credit-eligible projects and about $2.2 million was indirect and induced spending.

Table 12

Post-Production Credit - Impact of Upstate NY Activity on Upstate NY (2019 & 2020)

	Jobs	Earnings	Spending
Direct	34	$1,050,723	$2,940,733
Indirect	7	$292,411	$797,107
Induced	10	$510,680	$1,364,964
Total	**51**	**$1,853,814**	**$5,102,805**

Source: Empire State Development, Emsi, Camoin 310

*Note that the impacts estimated by the individual models for Downstate and Upstate **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

Table 13 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 2019 and 2020, Camoin 310 estimates the following impacts on the State associated with the credits:

- Approximately 114,200 jobs in New York State, of which about 57,300 were directly related to production activities and 56,900 were a result of indirect and induced economic activity.
- Approximately $7.4 billion in earnings, of which $3.5 billion was directly attributable to production activities and $3.9 billion was a result of indirect and induced activity.
- Approximately $20.5 billion in spending, of which about $9.9 billion was direct spending by credit-eligible projects and about $10.6 billion was indirect and induced spending.

Table 13

Production and Post-Production Credit - Total Economic Impact on New York State (2019 & 2020)

	Jobs	Earnings	Spending
Direct	57,318	$3,535,499,502	$9,895,051,689
Indirect	22,124	$1,521,034,123	$4,258,695,716
Induced	34,744	$2,349,376,496	$6,375,296,503
Total	**114,186**	**$7,405,910,121**	**$20,529,043,908**

Source: Empire State Development, Emsi, Camoin 310

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 of great importance for NYS. As more productions and post-production activity occurs in NYS, the number of employment opportunities increases, the skill level of the overall workforce improves, and the industry as a whole benefits. As new productions begin they have access to the strong workforce that has been built through the years.

Since the credit program was introduced, employment in the film industry in NYS is up by 54% or 20,565 jobs between 2004 and 2020, according to data from Emsi. This is compared to a 13% increase in the state's overall economy. 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 nearly 23% of jobs, followed by Film and Video Editors with nearly 8%, and Actors with over 7% of jobs. All of the top ten occupations grew over this period.

Table 14

Top 10 Occupations in the Film Industry

SOC	Description	Employed in Film Industry (2004)	Employed in Film Industry (2020)	Change (2004 - 2020)	% Change (2004 - 2020)	% of Total Jobs in Film Industry (2020)	Median Hourly Earnings	Typical Entry Level Education
27-2012	Producers and Directors	4,544	13,409	8,865	195%	22.8%	$46.27	Bachelor's degree
27-4032	Film and Video Editors	1,812	4,520	2,708	149%	7.7%	$34.37	Bachelor's degree
27-2011	Actors	4,264	4,273	9	0%	7.3%	$35.10	Some college, no degree
27-4031	Camera Operators, Television, Video, and Film	1,984	2,032	47	2%	3.5%	$37.40	Bachelor's degree
27-4011	Audio and Video Technicians	1,812	1,944	132	7%	3.3%	$25.64	Postsecondary nondegree award
43-5061	Production, Planning, and Expediting Clerks	251	1,760	1,509	601%	3.0%	$24.10	High school diploma or equivalent
27-3041	Editors	1,372	1,631	259	19%	2.8%	$34.79	Bachelor's degree
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	925	1,547	622	67%	2.6%	$15.12	No formal educational
27-1014	Special Effects Artists and Animators	884	1,331	447	51%	2.3%	$33.28	Bachelor's degree
43-9061	Office Clerks, General	532	1,198	665	125%	2.0%	$16.71	High school diploma or equivalent

Source: Emsi

In addition to credit-eligible productions, there are a number of non-eligible film productions[17] that currently occur in NYS that are largely a result of the presence of the film industry's economic cluster in the state. These non-eligible productions account for a majority of the employment in the film industry cluster in NYS and therefore, eligible productions that occur in the state due to the tax credit program are serving to maintain the viability of the entire economic cluster.

Quantifying this effect is imprecise. Of the 58,851 New York State film industry jobs in 2020, approximately 11,000[18] (about 19%) 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 2019-2020 period, it would have lost a total of 35,734 jobs, about $2.8 billion in earnings, and about $9.3 billion in spending (Table 15)[19]

[17] Non-eligible productions exclude non-scripted productions such as documentaries and news broadcasts.

[18] A review of the industries that make up the direct jobs generated as a result of the tax credit program find that 10,936 are in the NAICS codes associated with the television and film industry.

[19] 9,583 jobs were used as an input into the model. 9,583 = 58,851 * 81% * 10% *2, where 58,851 is the total number of NYS film industry jobs, 81% 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 2019-2020 period.

Table 15

Economic Impact on NYS of Losing 10% of Ineligible Production Activity

	Jobs	Earnings	Sales
Direct	9,583	$1,082,425,439	$4,461,949,692
Indirect	11,768	$778,076,361	$2,185,824,345
Induced	14,383	$985,592,515	$2,672,024,887
Total	**35,734**	**$2,846,094,315**	**$9,319,798,923**

Source: Empire State Development, Emsi, Camoin 310

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 over $1.0 billion.[20]

Table 16

Fiscal Impact of Losing 10% of Ineligible Production Activity

New York State Tax Collections	$493,034,470
New York City Tax Collections	$586,925,237
Total	**$1,079,959,707**

Source: Camoin 310

FILM PRODUCTION INDUCED TOURISM

As outlined in Camoin 310's 2019 study, *Economic Impact of the Film Industry in New York State, 2017 & 2018,* film-induced tourism is an additional impact of the film industry's presence within New York State. When tourists extend their stay at a destination to visit different sites featured in a movie or television show, or choose to visit a location to see where a film was made or is being made, revenue and employment is generated that would not otherwise exist without the presence of the film industry.

New York City continues to be home to both one of the largest film industries and tourism industries in the world. As discussed in the previous report, it is clear that the film industry in New York support the tourism industry in New York City, however estimating the degree to which film is the driving factor for visitation is outside the scope of this analysis. We can however 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 396,392 jobs in New York City that are associated with the tourism industry. If we assume that film-induced tourism accounts for 1% of total tourism in New York City, this would support 3,964 tourism jobs. If 19% of jobs in the film industry are attributable to the tax credit programs (as calculated above), then we can assume that 19% of the 3,964 tourism jobs are also attributable to the tax credit programs. Based on this order-of-magnitude estimate, the tax credit programs account for approximately 753 jobs in New York City's tourism industry (Table 17).

Table 17

Estimate of Tax Credit Programs on Film Induced Tourism in NYC

Total Tourism Related Jobs in NYC (2018)	396,392
Film Induced Tourism Jobs (1% of total)	3,964
Percent of Film Industry Resulting From Tax Credit Programs	19%
Film Induced Tourism Jobs Resulting from Tax Credit Programs	**753**

Source: Empire State Development, Camoin 310, NYC & Company

[20] Calculated using the proportion of Gross State Product (or Gross Regional Product) method as detailed in the *Fiscal Impact* section below.

FISCAL IMPACT ANALYSIS

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 310 calculated the proportion of film production spending associated with credit-eligible projects relative to New York State's Gross State Product in 2019. This percentage was then applied to New York State's total tax collections in 2019 for each tax category to determine the portion of tax collections attributable to the film tax credit program.[21] 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)

NYS 2019 Gross State Product (GSP)		$1,731,910,000,000
	Project Spending	Percent of GSP
Production Credit	$19,717,575,746	1.14%
Post-Production Credit	$811,468,162	0.05%

Source: Bureau of Economic Analysis, Empire State Development, Camoin 310

Camoin 310 estimates total tax collections by New York State in 2019 and 2020 resulting from the Production Tax Credit to be about $1.0 billion, and tax collections resulting from the Post-Production Credit to be about $43.0 million (Table 19).

Table 19

Fiscal Impact on New York State

	A 2019 NYS Tax Collections	B Tax Collections Attributable to Production Credit (Col. A x 1.14%)	C Tax Collections Attributable to Post-Production Credit (Col. A x 0.05%)
Individual Income Tax	$54,296,814,000	$618,162,343	$25,440,199
Corporate Income Tax	$4,339,182,000	$49,401,037	$2,033,078
General Sales Tax	$15,372,529,000	$175,014,293	$7,202,636
Selective Sales Tax	$11,857,986,000	$135,001,667	$5,555,934
License Taxes	$1,808,797,000	$20,592,924	$847,493
Other Taxes	$3,945,910,000	$44,923,685	$1,848,815
Total	**$91,621,218,000**	**$1,043,095,949**	**$42,928,155**

Source: 2019 Annual Survey of State Government Tax Collections, Camoin 310

[21] New York State total tax collections obtained from the 2019 Annual Survey of State Government Tax Collections.

To determine the Return on Investment of the tax credit program, Camoin 310 compared total New York State tax collections in 2019 and 2020 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 $2.2 billion in production and post-production tax credits to projects initiated in 2019 and 2020 (Table 20).

Table 20

Tax Credits Issued

Production Credits	$2,098,369,562
Post-Production Credits	$91,451,008
Total	**$2,189,820,570**

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. 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, the credit is paid out in equal sums over three years. Applying a discount rate of 0.38%[22] to the payout schedule results in a net present value (NPV) of $2,066,038,606 for the production credit and $90,866,584 for the post-production credit (Table 21 and Table 22).

Table 21

Estimated Production Credit Payouts for 2019 and 2020 Projects

	Production Credit
2021	$2,694,555
2022	$152,092,951
2023	$275,403,920
2024	$380,942,109
2025	$385,671,333
2026	$389,331,393
2027	$305,938,794
2028	$168,795,700
2029	$37,688,849
NPV	**$2,066,039,606**

Source: Empire State Development, Camoin 310

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

Table 22

Estimated Post-Production Credit Payouts for 2019 and 2020 Projects	
	Post-Production Credit
2021	$8,217,211
2022	$22,024,209
2023	$24,154,724
2024	$20,123,864
2025	$13,453,983
2026	$3,677,844
NPV	**$90,886,584**

Source: Empire State Development, Camoin 310

As shown in the tables below, Camoin 310 estimates the return on investment (ROI) ratio of the Production Credit for the State of New York to be 0.50. In other words, for every $1 of tax credits paid out on an NPV basis, the State receives $0.50 in return in the form of tax collections. The State's ROI for the Post-Production tax credit is $0.47 for every dollar of incentive.

Table 23

Production Credit - Return on Investment	
New York State Tax Collections	$1,043,095,949
NPV of Estimated Production Credit Payout	$2,066,039,606
Return on Investment Ratio	**0.50**

Source: Empire State Development, Camoin 310

Table 24

Post-Production Credit - Return on Investment	
New York State Tax Collections	$42,928,155
NPV of Estimated Post-Production Credit Payout	$90,886,584
Return on Investment Ratio	**0.47**

Source: Empire State Development, Camoin 310

To arrive at the amount of taxes collected by New York City as a result of the film credit program, Camoin 310 used the same methodology that was used for NYS.[23] As detailed in Table 25 and Table 26, an estimated $1.0 billion 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 shares of NYS post-production spending was similar to its share of production spending (about 90%).[24]

[23] New York City GRP was obtained from Emsi, and total New York City tax collections were obtained from the New York Independent Budget Office.

[24] Post-production spending figures are not directly available for New York City, as post-production spending is divided into Upstate and Downstate spending.

Table 25

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

NYC 2019 Gross Regional Product (GRP)		$1,001,802,307,508
	Project Spending	Percent of GRP
Production Credit	$16,040,537,391	1.60%
Post-Production Credit	$737,049,464	0.07%

Source: Emsi, Empire State Development, Camoin 310

Table 26

Fiscal Impact on New York City

	A FY 19-20 NYC Tax Collections	B Tax Collections Attributable to Production Credit (Col. A x 1.60%)	C Tax Collections Attributable to Post-Production Credit (Col. A x 0.07%)
Real Estate Tax	$29,815,935,000	$477,403,193	$21,936,283
Personal Income Tax	$13,591,179,000	$217,617,601	$9,999,349
Sales and Use Tax	$8,478,110,000	$135,748,779	$6,237,544
Income Taxes, Other	$7,861,996,000	$125,883,760	$5,784,255
Other Taxes	$3,342,452,000	$53,518,270	$2,459,120
Total	**$63,089,672,000**	**$1,010,171,603**	**$46,416,552**

Source: New York City Comptroller's Office, Camoin 310

Camoin 310 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 $98 million in tax revenues can be attributed to these jurisdictions (Table 27 and Table 28).[25]

Table 27

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

NYS (balance) 2019 Gross Regional Product (GRP)		$730,107,692,492
	Project Spending	Percent of GRP
Production Credit	$1,561,786,967	0.21%
Post-Production Credit	$74,418,698	0.01%

Source: Emsi, Empire State Development, Camoin 310

[25] 2019 total tax collections by local governments was estimated by adjusting the 2018 value from the US Census Bureau to reflect the change in NYS tax collections between 2018 and 2019.

Table 28

Fiscal Impact on NYS Outside of NYC

	A 2019 Tax Collections by NYS Local Governments (except NYC)	B Tax Collections Attributable to Production Credit (Col. A x 0.21%)	C Tax Collections Attributable to Post-Production Credit (Col. A x 0.01%)
All Taxes	$43,937,524,668	$93,987,578	$4,478,481

Source: US Census of State and Local Government Finances, Camoin 310

When combining the tax benefits accruing to NYS, NYC and local jurisdictions, the ROI ratio for the production credit is 1.04. In other words, for every $1 NYS pays in incentives, NYC receives about $0.49, other local governments receive $0.05, and NYS receives $0.50 in tax revenue (Table 29).

Table 29

Production Credit - Return on Investment

New York State Tax Collections	$1,043,095,949
New York City Tax Collections	$1,010,171,603
All Other NYS Local Govt Tax Collections	$93,987,578
Combined Tax Collection	**$2,147,255,130**
NPV of Estimated Production Credit Payout	$2,066,039,606
Return on Investment Ratio	**1.04**

Source: Camoin 310

The ROI for the post-production credit is 1.03, meaning that for every $1 of tax credits issued, NYC receives $0.51, the other local jurisdictions receive $0.05, and NYS receives $0.47 in tax revenue.

Table 30

Post-Production Credit - Return on Investment

New York State Tax Collections	$42,928,155
New York City Tax Collections	$46,416,552
All Other NYS Local Govt Tax Collections	$4,478,481
Combined Tax Collection	**$93,823,188**
NPV of Estimated Post-Production Credit Payout	$90,886,584
Return on Investment Ratio	**1.03**

Source: Camoin 310

ATTACHMENT A: WHAT IS 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 industry-to-industry purchases. Finally, the widget manufacturer has employees who will naturally spend their wages. Again, those 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. Together, these effects are referred to as the "Indirect 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. The ratio of Total Effects to Direct Effects is called the "multiplier effect" and is often reported as a 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 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

"DO TAX INCENTIVES AFFECT BUSINESS LOCATION AND ECONOMIC DEVELOPMENT? EVIDENCE FROM STATE FILM INCENTIVES"

This National Bureau of Economic Research working paper was published in 2019 and estimates the impacts of popular U.S. state film incentives on filming location, film industry employment, wages, establishments, and spillover impacts on related industries. This research finds that TV series filming increase slightly after incentive adoption, but there is no meaningful effect on feature films, and employment, wages, and establishments in the film and related industries. Results show that the ability for tax incentives to affect business location decisions and economic development is mixed.[26]

"FILM TAX CREDITS AND THE ECONOMIC IMPACT OF THE FILM INDUSTRY ON GEORGIA'S ECONOMY"

This 2019 report examines Georgia's generous motion picture incentive program and examines the claim that the industry subsidy is justified because it provides a significant economic impact to the state. The report finds that although tax credits have incentivized filming in the state, film production remains a relatively small portion of Georgia's economy.[27]

"DO STATE CORPORATE TAX INCENTIVES CREATE JOBS? QUASI-EXPERIMENTAL EVIDENCE FROM THE ENTERTAINMENT INDUSTRY"

Published in 2019, this report examines motion picture incentive programs from over 30 states in an attempt to determine whether those programs have contributed to employment growth. This research finds almost no statistically significant effect and that domestic employment is unaffected by competing incentives offered outside the United States.[28]

"CAN TAX INCENTIVES CREATE A LOCAL FILM INDUSTRY? EVIDENCE FROM LOUISIANA AND NEW MEXICO"

This 2018 article looks at film incentive programs in Louisiana and Mexico and explores the effect of the incentive programs relative to business as usual within these states. Findings are mixed; this research concludes that the incentives result in an increase in feature films, but not in TV series filming, employment, or business establishments.[29]

"PRODUCING DRAMA: A COMPARISON OF FILM TAX INCENTIVES TO ALTERNATE USES"

The authors of this study sought to compare the uses of North Carolina's film incentive program to the opportunity costs of offering the incentive. Alternate projects and potential uses of incentives were weighed against its film industry use, suggesting that in some cases the tool would reap greater economic impacts elsewhere. Findings suggest that policy decisions should take into account the potential benefit of using incentive tools on alternate projects.[30]

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[26] (Button, 2019).
[27] (Bradbury, 2019)
[28] (Thom, 2019)
[29] (Button, 2018)
[30] (Brady & Jones, 2017).

"MOTION PICTURE PRODUCTION INCENTIVES AND FILMING LOCATION DECISIONS: A DISCRETE CHOICE APPROACH"

This study applies a model to study the impact of tax incentives on film location choices for movies produced from 1999 to 2013. The authors find that production incentives can attract movies to a state, but the impact depends on the type of incentive offered, studio characteristics, and location geographic characteristics. Mid-sized studios respond to all forms of incentives, major studios respond only to refundable and transferable tax credits, and independent studios are not sensitive to incentives.[31]

"FILM-INDUCED TOURISM AMONG STUDENTS – AN EXPLORATORY STUDY"

Through the use of surveying, this study sought to explore students' awareness of film-induced tourism and their experience with accidental or intentional encounters with film settings. The research found that interest in film-induced tourism among students is very high, with students being highly interested in visiting places that have become famous as a result of a film and to places where movies were cast.[32]

[31] (Owens & Renhoff, 2018).
[32] (Diaconescu, 2018).

ATTACHMENT D: COVID-19 IMPACT ON 2020 ANALYSIS

New York's film industry was greatly impacted by the COVID-19 pandemic, related business and activity shutdowns, and associated production postponements. In June 2020 the Alliance of Motion Picture and Television Producers' Industry-Wide Labor-Management Safety Committee Task Force issued proposed health and safety guidelines for motion picture, television, and streaming productions for the remainder of the pandemic. These guidelines served to facilitate the resumption of productions in an environment that minimized the risk of contracting or spreading COVID-19. Recommendations included in this document sought to address concerns of infection control, protecting and supporting cast and crew health and safety, physical distancing, training and education, and unique production-specific concerns. These guidelines, in conjunction with New York State's regulations and issued media production guidelines for employers and employees, allowed New York State's film industry to slowly reopen.

While COVID-19's impact is not fully captured in ESD's 2020 credit and production data, we reviewed the reopening guideline materials, interviewed individuals within New York's film industry, and conducted an additional economic impact analysis in an attempt to shed some light on the pandemic's impact. According to interviewees, post-production activity was least impacted by COVID-19. With the ability to complete this work remotely, activity was able to continue throughout the shutdowns and there have been little new costs incurred as a result of the pandemic. On the flip side, production costs have increased significantly as a result of COVID-19 and prevention measures. Productions are now required to hire new employees to implement and oversee COVID-19 protocols, facilitate regular testing, offer hand sanitizer and regular sanitation, and provide necessary personal protective equipment (PPE) for crew. Additionally, social distancing requirements have added additional costs by requiring new tents and buildings to be rented to accommodate crew and for individually boxed meals to be provided. Adhering to COVID-19 protocols has resulted in additional shooting days being required for productions. From a financing perspective, the industry has also changed and new costs have been incurred. Pandemic insurance is now desired, however there are few options in the market and interviewees noted that the premiums are unaffordable. According to interviewees, when applying for financing for productions it is now common for banks to ask for a COVID-19 plan, and if pandemic insurance is not held the financing institutions now require higher contingencies and other collateral measures. Though these changes have all put a financial strain on productions as the industry works on reopening, interviewees agreed that 2021 activity is expected to be strong. In addition to resuming productions that were paused in 2020, new projects continue to come in with the intention of moving forward.

To quantify a more realistic picture of the economic impact of 2019-2020 production activity, ESD provided estimated data that excluded known COVID-19 related production postponements. It is important to view this data as an estimate only, and use as a comparison to the *Economic Impact Analysis* to get a better idea of how the industry was impacted by COVID-19.

COVID-19 ADJUSTED ESTIMATE: PRODUCTION TAX CREDIT

Table 31 shows aggregate adjusted estimated spending in New York State in 2019 and 2020 associated with the production credit, as reported in tax credit applications and estimated by ESD. In total, excluding known COVID-19 postponements, credit-eligible projects accounted for over $8.4 billion in in-state spending. The vast majority of that amount – 90% - occurred in New York City.

Table 31

COVID-19 Adjusted Estimate: Spending in NYS Associated with Production Credit (2019 & 2020)	
NYC Productions	$7,626,466,823
NYS Outside NYC Productions	$784,505,935
Total	**$8,410,972,758**

Source: Empire State Development

ECONOMIC IMPACT OF THE PRODUCTION CREDIT ON NEW YORK STATE

The $8.4 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 2019 and 2020, Camoin 310 estimates the following impacts associated with the production tax credit (Table 32):

- Approximately 96,000 jobs in New York State, of which about 49,000 were directly related to production activities and 48,000 were a result of indirect and induced economic activity.
- Approximately $6.3 billion in earnings by New York State workers, of which $3.0 billion was directly attributable to production activities and $3.3 billion was a result of indirect activity.[33]
- Approximately $17.5 billion in spending in the New York State economy, of which about $8.4 billion was direct spending by credit-eligible projects and about $9.0 billion was indirect and induced spending.

Table 32

COVID-19 Adjusted Estimate: Production Credit - Impact on New York State (2019 & 2020)			
	Jobs	Earnings	Spending
Direct	48,721	$3,005,238,473	$8,410,972,758
Indirect	18,806	$1,292,906,493	$3,619,968,324
Induced	29,533	$1,997,012,481	$5,419,117,245
Total	**97,060**	**$6,295,157,447**	**$17,450,058,327**

Source: Empire State Development, Emsi, Camoin 310

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 of 2019 and 2020, Camoin 310 estimates the following impacts on New York City associated with the production tax credit (Table 33).

- Approximately 70,000 jobs in New York City, of which about 39,000 were directly related to production activities and 30,000 were a result of indirect and induced economic activity.
- Approximately $5.1 billion in earnings by New York City workers, of which $2.7 billion were directly attributable to production activities and $2.4 billion were a result of indirect and induced activity.

[33] 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 $64,900, 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 $14.2 billion in spending in the New York City economy, of which about $7.6 billion was direct spending by credit-eligible projects and about $6.5 billion was indirect and induced spending.

Table 33

COVID-19 Adjusted Estimate: Production Credit - Impact of NYC Productions on NYC (2019 & 2020)			
	Jobs	Earnings	Spending
Direct	39,276	$2,724,934,698	$7,626,466,823
Indirect	14,244	$1,134,821,188	$3,171,202,910
Induced	16,069	$1,246,529,884	$3,373,780,250
Total	**69,589**	**$5,106,285,769**	**$14,171,449,983**

Source: Empire State Development, Emsi, Camoin 310

ECONOMIC IMPACT OF THE PRODUCTION CREDIT ON NEW YORK STATE OUTSIDE OF NYC

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 of 2019 and 2020, Camoin 310 estimates the following impacts associated with the production tax credit (Table 34):

- Approximately 11,000 jobs in the rest of New York State, of which about 7,000 were directly related to production activities and 4,000 were a result of indirect and induced economic activity.
- Approximately $513.6 million in earnings, of which $280.3 million were directly attributable to production activities and $233.3 million were a result of indirect and induced activity.
- Approximately $1.4 billion in spending, of which about $784.5 million was direct spending by credit-eligible projects and about $621.2 million was indirect and induced spending.

Table 34

COVID-19 Adjusted Estimate: Production Credit - Impact of Productions Outside of NYC on NYS Outside of NYC (2019 & 2020)			
	Jobs	Earnings	Spending
Direct	6,714	$280,303,775	$784,505,935
Indirect	1,912	$91,452,086	$246,240,651
Induced	2,497	$141,876,788	$374,992,056
Total	**11,123**	**$513,632,649**	**$1,405,738,643**

Source: Empire State Development, Emsi, Camoin 310

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.

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