



Georgia Department of Audits and Accounts

Performance Audit Division

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Why we did this review

The film tax credit is Georgia's largest tax credit. More than \$3 billion in credits were generated from 2013-2017, with the amount increasing each year. In 2016, more than \$667 million in film tax credits were generated, with the amount growing to more than \$915 million in 2017.

This audit evaluated the effectiveness of the credit as a tax incentive and economic development program, including the economic and fiscal impact of the credit.

An audit report on the administration of the film tax credit (18-03A) was released earlier this month.

About the Film Tax Credit

First passed in 2005, Georgia's film tax credit provides an income tax credit to production companies that spend at least \$500,000 on qualified productions. The base credit rate was raised to 20% in 2008, with an additional 10% for a qualified promotion of the state (e.g., Georgia logo). The credit is transferable, and most credits are sold by production companies to other taxpayers.

In 2016, 450 projects received the film tax credit. This included 182 television shows and 69 movies, categories that combined for approximately \$655 million of the \$667 million in credits granted that year. There were also 102 interactive projects and 97 other projects (e.g., commercials, online video content).

Impact of the Georgia Film Tax Credit

Credit's impact on economy, jobs is less than reported

What we found

While Georgia's film tax credit has increased the production of movies, television, and interactive entertainment in the state, the information available to decision makers regarding the credit's impact has been incomplete and inaccurate. The economic impact and jobs attributable to the credit have been overstated, even before considering the cost of the credit.

The economic impact of the credit has been overstated.

The Georgia Department of Economic Development (GDEcD) has used an inflated multiplier to calculate credit-related economic activity and has reported misleading job numbers. We estimated an output multiplier of 1.84 for the film industry, which is multiplied by production spending to obtain the gross economic impact of the credit. However, GDEcD has used a multiplier of 3.57 for more than 30 years without a clear source of the multiplier or evidence of its accuracy. Using the multiplier nearly doubles the impact of the credit.

When discussing the economic impact of the credit, the agency has also publicized the number of jobs supported by the film industry. However, many of the reported jobs are unrelated to the credit. The Motion Picture Association data used indicate that more than half of the Georgia jobs are in activities unrelated to film production, such as theater workers.

The film tax credit had an estimated net economic impact of less than \$3 billion and fewer than 10,000 jobs in 2016.

Production companies spent \$2.2 billion in 2016 to earn film tax credits of \$667 million. When combined with the ripple effects on local businesses and workers (direct, indirect, and induced effects), the total economic impact of this spending was \$4.1 billion

in output and 23,816 jobs. The credit also encouraged film tourism and studio construction in the state, contributing an additional \$501 million in output and 5,190 jobs.

While these figures capture the impact of the projects supported by the credit, they do not consider the cost of the public subsidy of the industry and the resulting decrease in government spending. The net impact appropriately considers both the economic benefits and the economic costs of the credit. Assuming the forgone revenue had been spent on the primary categories in the 2016 budget (education and healthcare), the credit's impact is reduced by \$1.8 billion in output and 19,876 jobs. The resulting impact of the film tax credit on the state's economy was an estimated \$2.8 billion and 9,130 jobs in 2016.

Credit caps could reduce the state's fiscal risk from revenue losses and increasing credit amounts.

The film tax credit results in significant revenue loss for the state by reducing income tax revenue that would have been paid otherwise. The lost revenue includes income taxes owed by tax credit purchasers on activity unrelated to film production. While the economic activity resulting from the credit generates revenue (e.g., personal income taxes, sales tax on purchases), the additional revenue is not sufficient to offset the credit. The \$667 million in credits generated in 2016 resulted in an estimated \$602 million net revenue loss to the state.

Georgia does not cap the film tax credit for most companies¹—neither the total amount granted nor the amount an individual project can receive. Consequently, the credit grew from approximately \$407 million in 2013 to \$915 million in 2017, an increase of 125% in four years. As of March 2019, there were more than \$1.7 billion in outstanding credits. Because companies can sell the credit, we expect that virtually all credits generated will be claimed.

Of the 31 other states with film tax credits or rebates, 27 states (87%) have a program cap to limit the total amount that can be granted in a given year. Georgia has the largest film incentive of any state. New York has the second largest incentive, capped at \$420 million per year.

A significant portion of the credit's benefits accrue to other states.

The film tax credit is not designed to incentivize hiring residents over nonresidents; it provides the same credit regardless of workers' residency. While Georgia residents held most of the jobs (80%) associated with the credit, most wages (53%) were paid to nonresidents. In 2016, nonresident labor accounted for \$245 million in credits, or 37% of the total credit amount. Of the 31 other states with a film tax credit or rebate, 20 (65%) have residency requirements or provide higher incentives for hiring residents, who are more likely to spend their wages in their home state.

What we recommend

Our report includes several recommendations for the General Assembly's consideration, including that it cap the film tax credit to reduce the fiscal risk to the state. Other matters for consideration include changing credit provisions to reduce credits for wages paid to out-of-state workers, requiring periodic evaluations of the credit, and allowing public disclosure of credit recipients and amounts.

We also recommend that GDEcD improve the accuracy of information reported to decision makers, including using a reasonable multiplier and ensuring that reported job figures accurately represent the impact of the credit for Georgia resident workers.

See [Appendix A](#) for a list of recommendations.

¹ The credit is capped for qualified interactive entertainment companies, which represented 1.6% of the 2016 credit amount.

GDEcD Response: “GDEcD believes an audit should be neutral, unbiased, and present information in a fair and independent manner. GDEcD does not believe that this audit achieves these goals. Instead, GDEcD believes that this audit presents information that paints an inaccurate picture of the overall impact of the film industry in Georgia. Specifically, GDEcD takes issue with the manner in which DOAA calculated the film industry’s net economic impact. DOAA turned the true cost of the credit in 2016 (in forgone tax revenue of \$667 million) into \$1.8 billion by presuming speculative government spending patterns and then netting this figure out from the actual impact. DOAA took the same approach when it determined the net number of jobs the film tax credit program generated. DOAA calculated the direct and indirect and induced industry jobs (totaling 29,000), and then subtracted [19,876] speculative government jobs that might have been created by the forgone tax revenue to conclude that the net number of jobs is [9,130]. GDEcD believes this approach to determine the amount of economic impact and job create serves to undervalue the film tax credit’s impact on the economy.”

GDEcD noted that it had been advised by three economists to conduct a 2019 film study and to evaluate this audit: Dr. Alfie Meek of Georgia Tech (who conducted GDEcD’s study), Dr. Roger Tutterow of Kennesaw State University, and Dr. Mark Rider of Georgia State University.

Auditor’s Response: The Georgia Department of Audits and Accounts (DOAA) welcomes input and critique of our methodology and the presentation of facts and conclusions in our reports. However, any implication that DOAA is not neutral or is biased in its evaluation is unfounded. A primary role of DOAA is to provide independent, objective information to the state’s decision makers, and this report is consistent with that role.

This report is a comprehensive and transparent evaluation of the credit, including all aspects of its economic benefits and costs. This includes the economic gains related to tourism and studio construction, which are not included in many studies. Prior to its execution, we shared our methodology with GDEcD and its film study consultant, Dr. Meek. No objections to the study were provided, and Dr. Meek stated that our study was “very comprehensive,” using a “fair methodology” and better data than what was available to him. Only after the methodology was executed and the results were shared did GDEcD indicate that DOAA was not a neutral, unbiased party. It should be noted that the study included in our audit was reviewed by two economists at Georgia State University and a team of economists at the University of Georgia. As a promoter of both the film industry and the film tax credit, GDEcD is not unbiased and should not be relied upon to evaluate the credit’s impact.

Regarding the presentation of an inaccurate picture, our analysis was focused on the impact of the film tax credit specifically, which requires considering the credit’s cost. An analysis that does not consider forgone government spending would provide readers with an inaccurate and incomplete understanding of the credit’s impact. If anything, our impact of the film tax credit on the industry may be overstated. Our analysis assumed that every single project that received the film tax credit would not have occurred without the credit, an assumption that increased the number of jobs, labor income, and economic impact included in the report. In fact, Georgia had production activity prior to the credit, and we identified projects that would have filmed in the state without the credit.

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Purpose of the Audit

This report examines the impact of the Georgia Entertainment Industry Investment Act tax credit. Specifically, the audit determined the effectiveness of the credit as a tax incentive and economic development program, including the economic and fiscal impact of the credit.

A description of the objectives, scope, and methodology used in this review is included in [Appendix B](#). A draft of the report was provided to the Department of Economic Development (GDEcD) for its review, and pertinent responses were incorporated into the report.

A report addressing the administration of the credit was released earlier this month.

Background

Legislative History

In 2005, the General Assembly passed the “Georgia Entertainment Industry Investment Act” (O.C.G.A. §48-7-40.26), which created a transferable income tax credit (the “film tax credit”)² to incentivize the production of film, television, and digital projects in the state. The original credit equaled 9% of a production company’s base investment of \$500,000 or more in Georgia. Supplemental credits, in addition to the 9%, were allowed for the following items: 3% for spending in less developed counties, 3% of payroll for Georgia residents, and 2% if the base investment was over \$20 million for multiple television projects.

In 2008, HB 1100 simplified the film tax credit rate and raised it to its current level. The legislation increased the base credit from 9% to 20%, with an additional 10% credit allowed for a qualified promotion. Additionally, the 2005 supplemental credits were eliminated. A summary of significant legislative changes is shown in [Exhibit I](#).

² We use the term “film tax credit” for all project types under the Georgia Entertainment Industry Investment Act, including film, television, and digital, such as animation and interactive entertainment (i.e., video games).

Exhibit 1 Timeline of Legislative Changes

2001	2005	2008	2012	2014	2015	2017
HB 160	HB 539	HB 1100	HB 386	HB 1027	HB 958	HB 339
<ul style="list-style-type: none"> Created sales and use tax exemption for production equipment and services used in qualified production activities 	<ul style="list-style-type: none"> Created income tax credit of 9% for production companies on a \$500K base investment Allowed supplemental amounts for spending in less developed counties, Georgia payroll, and spending over \$20M for multiple TV shows 	<ul style="list-style-type: none"> Increased income tax credit to 20%, with an additional 10% for promotion Removed supplemental credits from 2005 	<ul style="list-style-type: none"> Eliminated sales and use tax exemption Added definitions and differing requirements for qualified interactive entertainment production companies (QIEPCs) Added lifetime aggregate and company credit caps of \$25M and \$5M for QIEPCs Added alternative marketing opportunities as option to receive the 10% promotion credit 	<ul style="list-style-type: none"> Changed company and aggregate credit caps for QIEPCs to \$1.5M and \$12.5M per taxable year Sunset QIEPC credits in 2016 	<ul style="list-style-type: none"> Set up credit pre-approval process for QIEPCs Delayed QIEPC credit sunset to 2019 	<ul style="list-style-type: none"> For QIEPCs, eliminated credit sunset, lowered minimum spending, and altered payroll requirements (O.C.G.A. §48-7-40.26) Added separate post-production credit (O.C.G.A. §48-7-40.26A)

Source: Official Code of Georgia Annotated

In 2012, the General Assembly added lifetime aggregate and company credit caps for qualified interactive entertainment production companies (QIEPCs).³ Credits for QIEPCs would sunset after these caps were reached. In 2014, annual caps replaced the lifetime caps, with a sunset date of 2016. The sunset provision was delayed the following year and eliminated in 2017.

Current Provisions

Production companies that spend at least \$500,000⁴ on one or more qualified productions are eligible for a tax credit of 20% of their qualified in-state spending. Companies can increase their credit rate to 30% by including a Georgia promotional logo in the finished product and a link to Georgia's film office on the project's web page, or by offering alternative marketing opportunities. The additional 10% credit is also known as the "uplift."

Exhibit 2 shows eligible and ineligible production types, as defined by statute. Eligible projects include various types of filmed, live-action productions, as well as animated projects and interactive projects such as video games. Companies may use multiple projects to meet the spending requirement. While commercials are eligible for the base 20% credit, they are not eligible for the uplift.

³ A QIEPC is defined in statute and regulation as a company with gross income under \$100 million that is primarily engaged in interactive entertainment activities, such as video game or virtual reality production. This definition was expanded in 2017 (HB 199).

⁴ Starting in 2018, the minimum spending requirement was lowered to \$250,000 for QIEPCs.

Exhibit 2 Production Types

Eligible	Ineligible
Feature films	Athletic event coverage
Television movies	News coverage
TV series and pilots	Local interest programming
Commercial advertisements	Projects not shot or recorded in Georgia
Music videos	Corporate or instructional videos
Interactive entertainment, including prereleased games	Projects not intended for multimarket commercial distribution
Sound recording for feature films, series, pilots, or TV movies	

Source: Official Code of Georgia Annotated §48-7-40.26

The original 2005 legislation included a provision reducing the credit amount for companies that already had a significant presence in the state; this provision remains in place. If a company's average annual in-state expenditures from 2002 to 2004 exceeded \$30 million, only its excess base investment is eligible for the credit. Excess base investment is current year production expenditures minus the average annual expenditures from 2002 to 2004.

A new postproduction credit took effect in 2018 (O.C.G.A. §48-7-40.26A) that makes footage not shot in Georgia eligible for the postproduction credit. Companies cannot receive both credits for the same work. Due to its recent implementation, this postproduction credit was not included in this audit.

QIEPCs

QIEPCs are subject to additional requirements and restrictions. To be eligible for the credit, a QIEPC must maintain an in-state business location and have Georgia payroll of at least \$250,000 (\$500,000 prior to 2018). Credits for QIEPCs are also subject to annual caps.

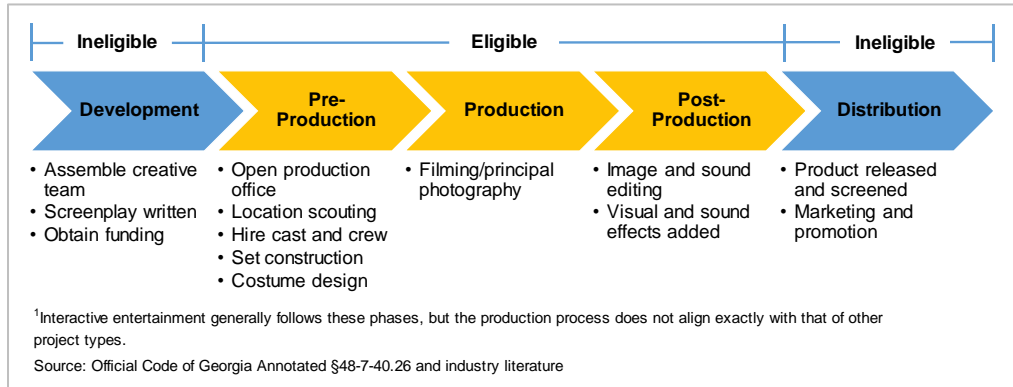
QIEPCs are companies with gross income under \$100 million that are primarily engaged in interactive entertainment activities, such as the development of video games.

- **Company cap** – Statute limits a QIEPC's credits to \$1.5 million annually, or its aggregate in-state payroll for the year, whichever is lower. This cap is applied to the total credits received by a QIEPC and its QIEPC affiliates.
- **Aggregate cap** – Statute limits the credits received by all QIEPCs to \$12.5 million annually. As a result, QIEPCs must request preapproval of the credit amount from the DOR, and credits are granted in the order the applications are received. The aggregate cap was first reached in 2017. If a company does not take the full amount that was preapproved, the unused amount is not reallocated to other companies.

Qualifying Expenditures

Under statute, expenditures are eligible for the credit if they are incurred in-state during the preproduction, production, and postproduction phases (see Exhibit 3) and are directly used in the qualified production activity.

**Exhibit 3
Film and Television Project Phases¹**



Examples of eligible expenditures are shown in Exhibit 4. Employee payroll is an eligible expenditure, but qualifying compensation is \$500,000 or less per employee. Payments to contract workers and loan-out companies⁵ are also eligible but are not capped. Production companies must withhold Georgia income tax at a rate of 6% for payments to loan-out companies.

**Exhibit 4
Examples of Eligible Expenditures**

Set construction and operation	Vehicle leasing
Wardrobes	Food and lodging
Make-up	Computer graphics and special effects
Photography	Animation
Sound and music expenses	Payroll
Lighting	Airfare purchased through a Georgia agency
Editing	Insurance purchased through a Georgia agency
Facility and equipment rentals	Other direct costs of production

Source: Official Code of Georgia Annotated §48-7-40.26

Credit Use

A production company may expend its credits in multiple ways. A company may

- use the credit to offset its own income tax liability;
- use the credit to satisfy its employee withholding;⁶
- sell the credit to another taxpayer;
- assign the credit to an affiliated entity; or
- pass the credit through to its owners.

If a credit is sold or assigned to an affiliate, the receiving entity may only use it to offset its income tax liability. It may not be resold or used for employee withholding. Unused credits may be carried forward for up to five years. Selling a credit or assigning it to an affiliate does not extend the carryforward period.

⁵ A loan-out company is a personal service company that provides individual personnel, such as actors and directors, to production companies.

⁶ Employee withholding is the amount withheld from an employee’s wages and paid directly to the state by the employer as payment of the employee’s income tax. Use of this benefit requires approval by DOR.

Credit Administration

GDEcD is responsible for determining project eligibility, while DOR is responsible for implementing and administering the credit (see **Exhibit 5**). GDEcD certifies that a project qualifies for the tax credit and verifies the company fulfilled the uplift requirements. The Film Office certifies live-action projects, while the Interactive Entertainment and Digital Entertainment Office certifies digital media, such as interactive entertainment and animation. At DOR, the Taxpayer Services Division oversees credit record generation, credit use, and QIEPC cap enforcement, while the Audits Division conducts voluntary and involuntary audits to verify production expenditures.

Exhibit 5 Agency Roles

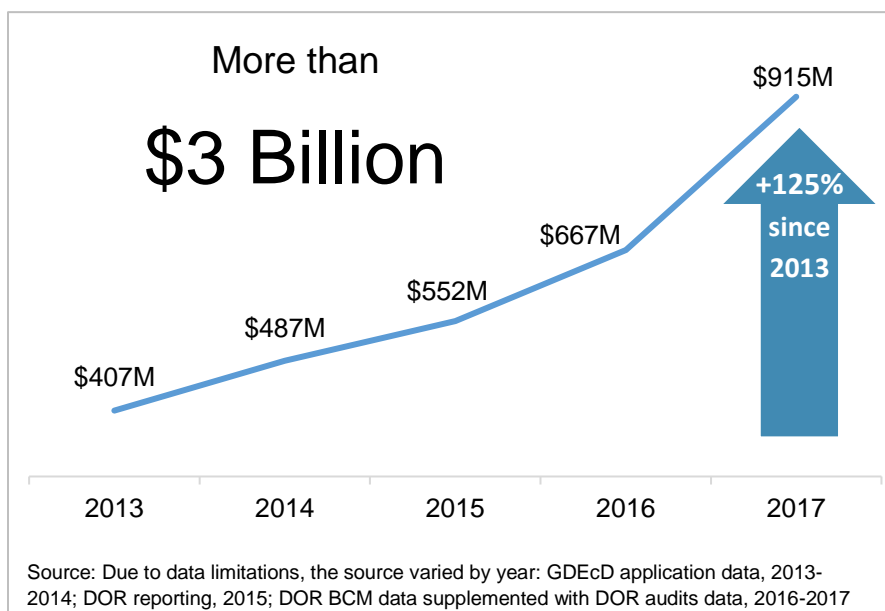
GDEcD	DOR
Reviews credit applications	Generates credits and monitors use
Certifies project eligibility	Enforces QIEPC caps
Verifies uplift requirements	Conducts voluntary and involuntary audits of production spending

Source: Agency documents and interviews with agency staff

Program Activity

The film tax credit has grown significantly in recent years. As shown in **Exhibit 6**, the amount generated grew from approximately \$407 million in 2013 to \$915 million in 2017, an increase of \$508 million (125%). This five-year period was the only reliable data available. DOR could not provide information on annual credits generated before 2015; therefore, we relied on GDEcD estimates for 2013 and 2014. In addition, companies can submit amended tax returns up to three years after their due date, meaning recent years are subject to change and 2018 credits were not yet complete.

Exhibit 6 Film Tax Credits Increased Significantly in Recent Years, 2013-2017



As shown in **Exhibit 7**, production companies reported qualifying expenditures of approximately \$2.2 billion to earn film tax credits of \$667 million in 2016.⁷ The resulting credit rate across all projects was 29.8%, close to the maximum of 30% due to movies and TV shows receiving the uplift representing such a large portion of the expenditure and credit amounts. In 2016, 88% of movies and TV shows received the uplift.

Exhibit 7
Projects Received \$667 Million in Film Tax Credits, Tax Year 2016

Project Type	# of Projects	Expenditures	Credit Amount ¹
Movie	69	\$ 1,152,857,137	\$ 345,735,799
TV Show	182	\$ 1,006,806,460	\$ 299,947,295
Other ²	97	\$ 39,432,713	\$ 11,006,693
Interactive	102	\$ 38,895,651	\$ 10,497,313
Total	450	\$ 2,237,991,961	\$ 667,187,100

¹Amounts are as of September 2018.
²The "Other" category is primarily commercials and online video content.
Source: Department of Revenue Business Credit Manager

Movies and television shows comprised more than 97% of credits earned. Despite having the fewest number of projects, movies had the largest expenditures and received the most credits of any project type. Television shows were the largest project type by number of projects and the second largest type by credit amount.

Most credits are sold because the production companies typically have little to no Georgia income tax liability.

After film tax credits are generated by the production company, most are transferred to other Georgia taxpayers. As shown in **Exhibit 8**, approximately 80% of credits generated in 2016 have been transferred by the production company to another Georgia taxpayer. DOR data does not differentiate between sales, transfers to affiliates, and pass-throughs to company owners. However, the consensus is that most credits are sold because the production companies typically have little to no Georgia income tax liability.

While most credits have been transferred, the credit's growth and five-year carryforward period have resulted in a significant amount of credits not yet claimed. DOR reported \$1.1 billion in credits generated through tax year 2016 not claimed as of March 2019. DOR was unable to provide information regarding the percentage of credits that expire without being claimed. However, the percentage is likely insignificant, given the ability to sell the credit.

⁷ Currently, the most complete year for detailed credit data is 2016. Our analysis is based on BCM data provided in September 2018, though DOR reporting indicated the 2016 credit had reached \$677 million by March 2019.

**Exhibit 8
Production Companies Transferred Most Credits, Tax Year 2016**

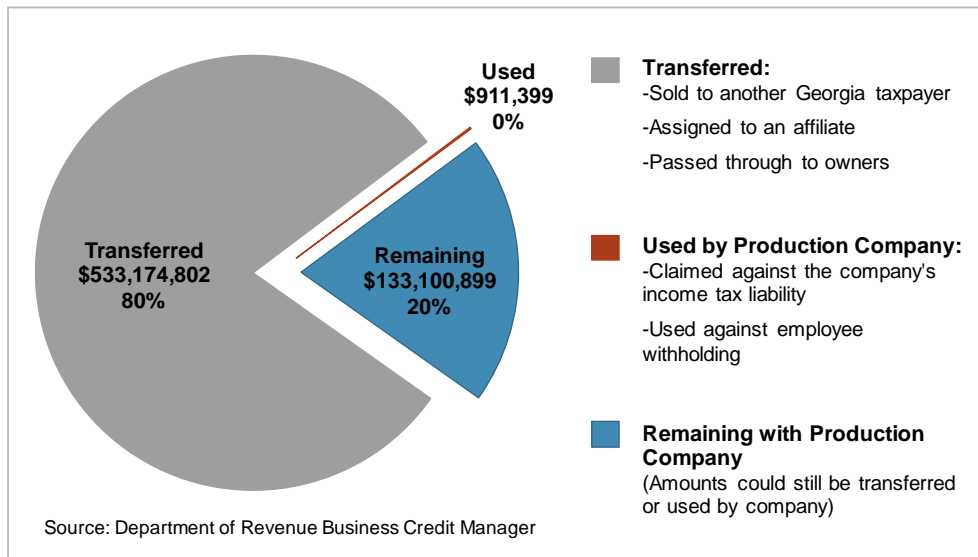
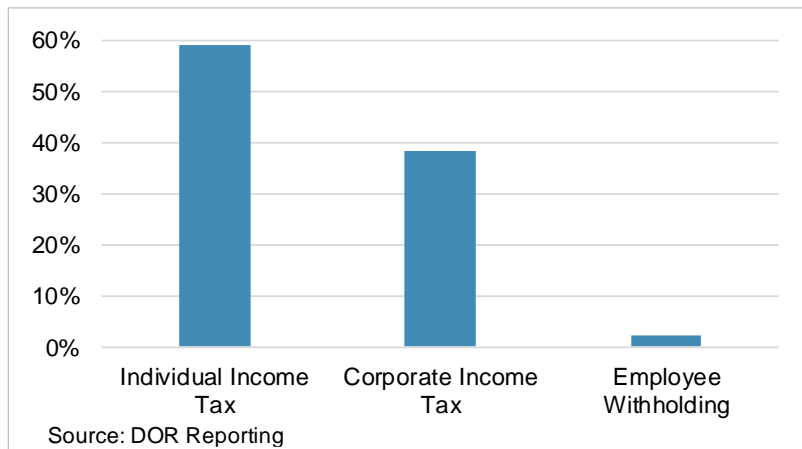


Exhibit 9 shows credit claims against tax liability for tax years 2012-2016. The claimant could be the production company that originally earned the credit or the recipient of the credit via sale or other transfer. Credits were primarily used to offset individual income tax liability (59%), followed by corporate income tax (38%). The credit was infrequently claimed against employee withholding liability (2%).⁸

**Exhibit 9
Credits Were Primarily Claimed Against Individual Income Taxes, 2012-2016**



⁸ Percentages do not total to 100% due to rounding.

Tax Credits

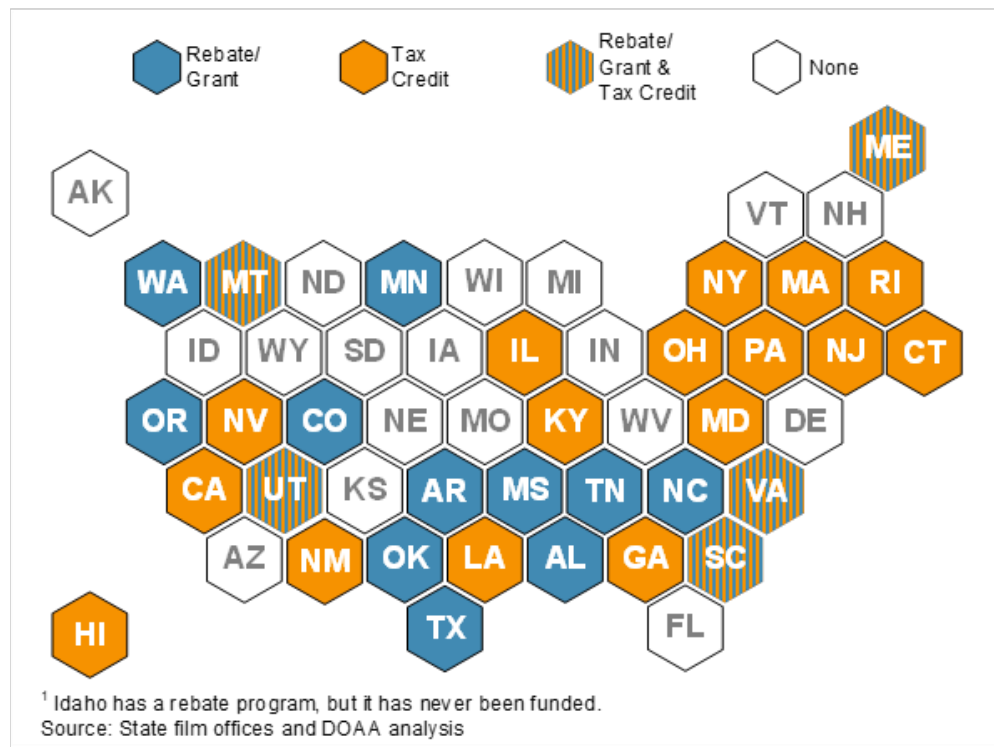
Offset of tax liability that does not involve a direct payment to the taxpayer, unless it is refundable

Rebates and grants

Direct reimbursement of expenditures not tied to a tax

Other States

Thirty-two states, including Georgia, currently provide some form of film incentive. As shown in Exhibit 10, the incentives are offered as tax credits, rebates, grants, or some combination. Specific provisions vary by state and frequently change. A comparison of state film incentives is provided in [Appendix C](#).

**Exhibit 10
Incentive Type by State¹**

Georgia has the largest film incentive of any state by the amount generated. Georgia provided \$667 million in film tax credits in 2016. The state with the next largest incentive was New York, which was capped at \$420 million in 2016.

Georgia appears to have relatively generous film tax credit provisions, but variation in incentive structures prevents a direct comparison among states. We identified four primary factors that cause this variation.

- **Qualifying expenditures** – The type of expenditures eligible for the credit vary by state and affect the incentive’s generosity. Georgia allows companies to receive the credit for a broad array of expenditures, but other states may target a narrower set of expenditures. For example, nonresident labor compensation is eligible in Georgia, while only resident compensation is eligible in Texas.
- **Caps** – Caps may limit the incentive amount a company can receive or prevent an incentive from being granted altogether. Georgia currently has no cap for its film incentive (unless the company is a QIEPC), but 27 other states have project and/or aggregate caps. For example, North Carolina offers a 25%

rebate on qualified expenditures but limits the rebate to \$7 million per feature film and \$31 million in aggregate.

- **Incentive type** – The incentive type and how it is monetized affects the production company’s financial gain from the incentive. A rebate or fully refundable credit provides a direct payment to the production company for the full incentive amount. However, when unused credits can be sold (as in Georgia), the credits are typically sold at a discount in secondary markets. In other words, the taxpayer purchasing the credit pays an amount less than the credit’s face value to obtain a tax savings. Other states vary in how excess credits are monetized. Louisiana buys back the credits at a discount (currently 88%), while New York fully refunds the credits.
- **Supplemental credits** – Supplemental credits result in varying effective credit rates depending on a project’s expenditures. Eighteen states currently offer increases to their base incentives for specific expenditure types or production locations. For example, California allows an additional 5% for filming outside of Los Angeles or for expenditures in music scoring, track recording, or visual effects. Louisiana offers supplemental credits (with the total credit capped at 40%) for productions based on a screenplay created by a state resident (+10%), filming outside of New Orleans (+5%), resident payroll (+15%), and visual effects spending (+5%).

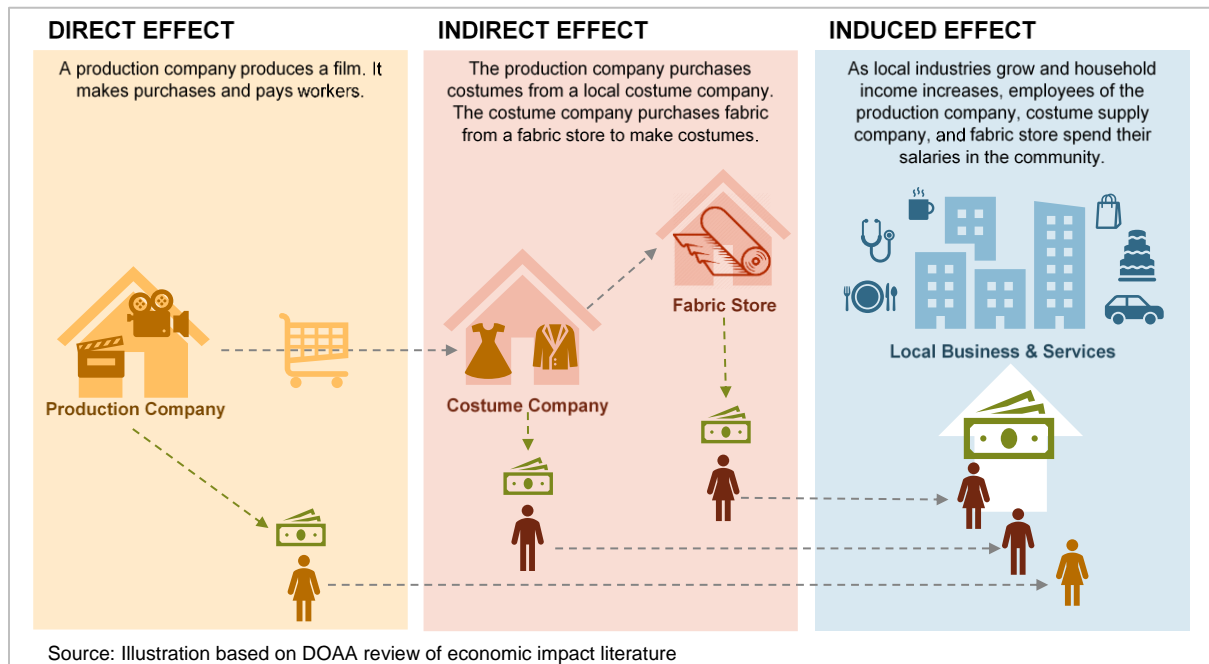
Impact Analysis

We conducted an impact analysis (referred to as “study results” in report exhibits) to estimate the effects of the film tax credit on the Georgia economy. We developed these estimates with a consultant using IMPLAN, a widely used economic modeling system. IMPLAN estimates the impact, or ripple effect, of a given economic activity within a specific geographic area. The initial activity and the ripple effect have three components: direct, indirect, and induced.

- **Direct effects** are the inputs that initiate the ripple effect. For our purposes, direct effects are amounts associated with production company spending in Georgia resulting from the film tax credit.
- **Indirect effects** are the economic activity supported by purchases of the firms that provide the direct activity. For example, a film production company spends on hotels, equipment rentals, props, and catering. Each of these supplying businesses subsequently spends a portion of the money they receive on their own production inputs, which in turn prompts spending by the suppliers of these inputs. These rounds of spending continue, getting progressively smaller due to leakages, when firms spend money on imports (including imports from other states), taxes, and profits.
- **Induced effects** are economic activity that occurs from households spending labor income earned from the direct and indirect activities. This activity results from household purchases on items such as food, healthcare, and entertainment. The labor income spent to generate these effects does not include taxes, savings, or compensation of nonresidents (commuters) as these leave the local economy (leakage).

The three effects collectively make up the total effect of an activity. An example of the relationships between direct, indirect, and induced effects is shown in **Exhibit 11** using film production.

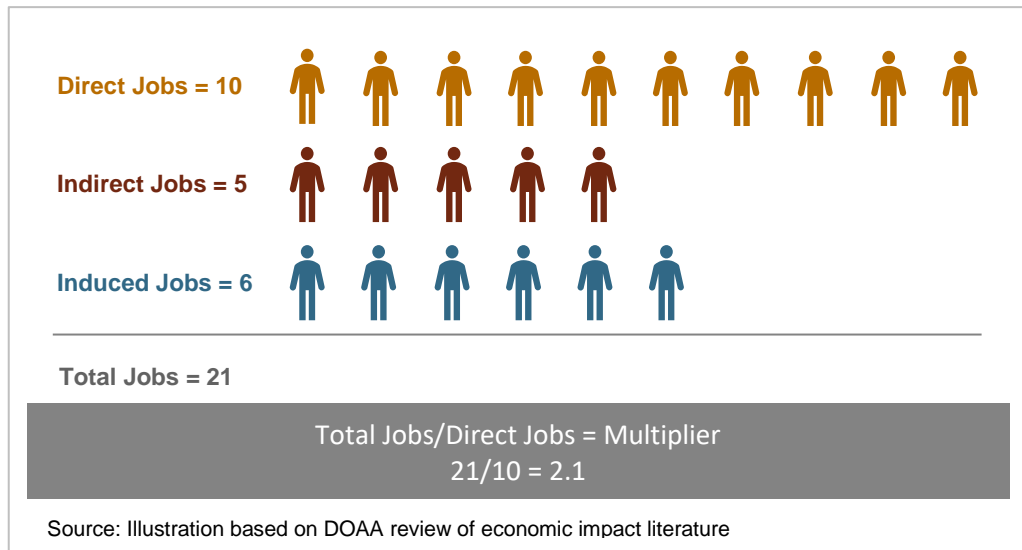
Exhibit 11 Production Generates Additional Spending



The new economic activity stimulates output, labor income, and employment, and an impact analysis measures each.

- **Output** is the value of production. This includes the value of all final goods and services, as well as the value of all intermediate goods and services used to produce them.
- **Labor income** includes total compensation—wages, benefits, and payroll taxes—for both employees and self-employed individuals.
- **Employment** includes full-time, part-time, and temporary jobs. Job numbers do not represent full-time equivalents, so one individual may hold multiple jobs. It includes both employees and the self-employed.

Multipliers are used to summarize the overall effects of a particular economic activity. As used in this report, multipliers are ratios describing total economic effects compared to direct effects. They have a value equal to one or greater, indicating the initial economic activity in the industry (direct) creates a greater total economic value (direct + indirect + induced). In the example shown in **Exhibit 12**, an employment multiplier of 2.1 means that every direct job in the industry supports an additional 1.1 jobs in the larger economy, for a total of 2.1 jobs. Higher multipliers indicate that the industry activities have a larger effect on the overall economy. Our impact analysis for the film tax credit includes multipliers for output, labor income, and employment, which are shown in [Appendix D](#).

Exhibit 12
Multipliers Show Additional Economic Effects (Illustration)

An incentive's cost must also be considered to accurately describe its impact. When the state provides a tax credit to an industry, the credit reduces the revenue the state has available. Due to the state's balanced budget requirement, any reduction in revenue must be offset by a reduction in government spending. The additional spending that did not occur would have generated indirect and induced effects. A complete picture of the credit's impact on the state's economy must consider the decreased government spending. The net impact of the credit appropriately considers both the economic benefits and the economic costs of the credit.

Findings and Recommendations

Finding 1: Projects receiving the film tax credit in 2016 had an estimated impact of \$4.6 billion on the state's economy before considering the economic cost of the credit. We estimated the impact at \$2.8 billion once those costs are considered.

In 2016, projects that received the film tax credit had an estimated net impact of \$2.8 billion on the state's economy (see Exhibit 13). Productions added \$4.1 billion to the Georgia economy, and studio construction and film tourism increased that impact another \$501 million. This \$4.6 billion impact does not consider the economic costs of the public subsidy provided through the tax credit. The reduction in government spending due to the tax credits results in a lower net economic impact. See [Appendix D](#) for the components of net impact in output, labor income, and jobs.

Exhibit 13 Net Economic Impact Was \$2.8 Billion¹ in 2016

Production Companies – Film and Interactive Entertainment		
Output	Labor Income	Jobs
\$4.1 billion	\$2.1 billion	23,816
<i>plus</i>		
Associated Industries – Studio Construction and Film Tourism		
Output	Labor Income	Jobs
\$501 million	\$184 million	5,190
<i>equals</i>		
Gross Impact (Without Considering Economic Cost of the Tax Credit)		
Output	Labor Income	Jobs
\$4.6 billion	\$2.3 billion	29,006
<i>minus</i>		
Economic Cost of the Tax Credit (Decrease in Government Spending)		
Output	Labor Income	Jobs
\$1.8 billion	\$859 million	19,876
<i>equals</i>		
Net Impact on Georgia Economy		
Output	Labor Income	Jobs
\$2.8 billion	\$1.5 billion	9,130
¹ Includes direct, indirect, and induced effects Source: Study results		

The credit increased production of movies, television, and interactive entertainment (i.e., production company spend).⁹ Direct, indirect, and induced effects of the 450 projects in 2016 totaled \$4.1 billion, with \$2.1 billion in labor income and 23,816 jobs. Spending in the state by production companies was \$2.2 billion, the single largest component of the credit's economic impact. This spending included \$1.6 billion in labor income associated with 11,121 jobs. It should be noted that \$818 million of this amount was for compensation to non-Georgia residents, resulting in minimal impact on the state's economy.

Industries not already included in the production company analysis also benefited from the additional activity. The increase in filming led to the construction of additional studio space. Approximately \$122 million was spent on studio construction in 2016, generating a total of \$209 million in economic activity. Film production may also generate tourism, increasing the economic impact to the state. We estimated Georgia's 2016 film tourism at \$146 million, which generated a total of \$292 million in economic activity.

While the credit results in additional economic activity, the \$667 million cost of the credit in 2016 represents less income tax revenue available to the state.¹⁰ Ultimately, the revenue reduction prevents the state from spending this amount on other programs, which, like film production, would have also generated indirect and induced spending. We estimated the economic impact of the government spending that did not occur at \$1.8 billion, reducing the impact of the credit on the state's economy.

Increase in Production Company Spend

Film and interactive entertainment projects receiving the credit reported direct spending of more than \$2.2 billion. The production company expenditures resulted in an overall economic impact of \$4.1 billion, prior to considering studio construction, tourism, and reductions in government spending.

Film

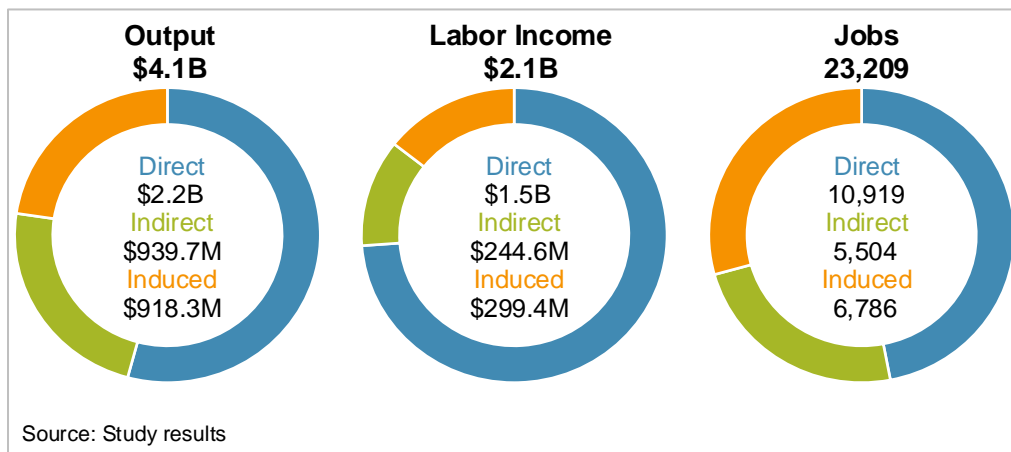
In 2016, 348 film¹¹ projects receiving the film tax credit had a total economic impact of \$4.1 billion. The production companies reported nearly \$2.2 billion in spending on labor and vendors (direct output), as shown in **Exhibit 14**. For each dollar spent, an additional \$0.84 is generated in the state economy, related to vendors supporting the production companies (indirect) and individuals spending their income within the state (induced). This additional activity totaled approximately \$1.9 billion.

⁹ We assumed all economic activity – productions, construction, and tourism – resulted from the film tax credit, meaning none would have occurred without it. We did identify projects that likely would have filmed in-state without the credit, resulting in an overstated impact, but the extent of this issue is unknown.

¹⁰ As noted on page 21, income taxes were owed whether production activity occurred in Georgia or not.

¹¹ The term "film," as used here, describes all projects receiving the credit other than interactive entertainment. This category includes movies, television shows, commercials, music videos, and online video content.

Exhibit 14 Economic Impact of Film Projects Receiving the Credit, 2016



Jobs – All full-time, part-time, and temporary jobs. Figures do not represent full-time equivalents, so one individual may hold multiple jobs.

Jobs in the state may be held by nonresidents.

Each film production company job supported 1.1 jobs in other industries.

The film projects resulted in labor income of \$2.1 billion, of which \$1.5 billion was direct spending by production companies. The indirect and induced amounts were much lower; induced is impacted by more than half of direct labor income being paid to nonresident individuals unlikely to spend significant amounts within the state. Of the \$1.5 billion paid by production companies, Georgia residents received \$718 million and nonresidents \$818 million.

Film production supported 23,209 total jobs. Production companies created 10,919 direct jobs,¹² such as cast and crew on production sets. Each production company job supported 1.1 jobs in other industries. This includes 5,504 indirect jobs with production company vendors and their suppliers, such as catering companies and their food distributors. Induced spending supported 6,786 jobs at companies where workers spend their wages, such as restaurants and grocery stores.

While the \$818 million to nonresident workers is included in the direct labor income, it has little impact on the Georgia economy because nonresidents are expected to spend their wages in their home state. Production companies are typically required to pay for nonresidents' living expenses (e.g., hotel, transportation, per diem) while the worker is away from home. These living expenses were included in our impact analysis. As a result, nonresidents are unlikely to spend significant portions of their wages while in Georgia. Additional discussion of nonresident wages being used toward the credit can be found in the finding on page 29.

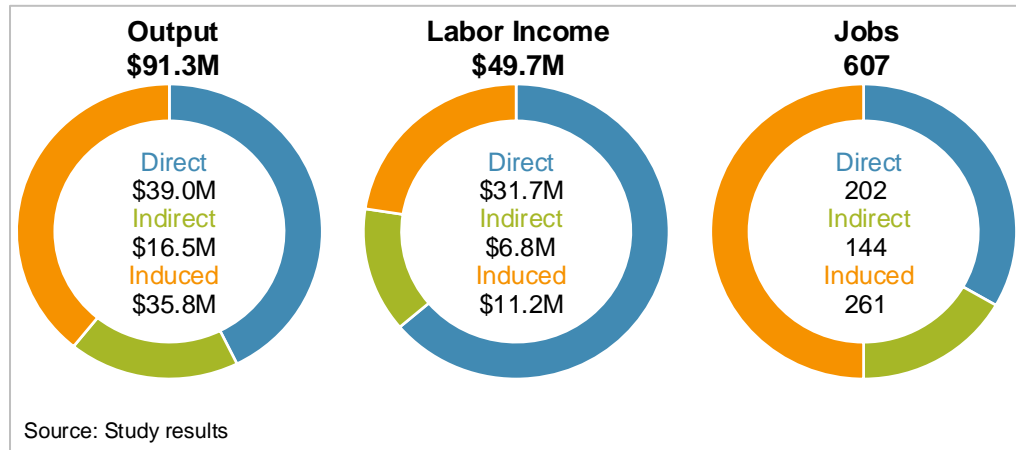
Interactive Entertainment

In 2016, 102 interactive entertainment projects receiving the film tax credit had a total economic impact of \$91.3 million. As shown in **Exhibit 15**, the production companies reported spending \$39.0 million on labor and vendors (direct output). For each dollar spent, another \$1.34 was spent by vendors supporting the production companies

¹² This figure represents the full 2016 motion picture and video production jobs for Georgia published in the Bureau of Labor Statistics' Quarterly Census of Employment and Wages. Additional discussion is provided in [Appendix B](#) on page 46.

(indirect) and by individuals spending their income within the state (induced). This additional spending totaled approximately \$52.3 million.

Exhibit 15 Economic Impact of Interactive Entertainment Projects Receiving the Credit, 2016



The interactive projects resulted in total labor income of \$49.7 million, of which \$31.7 million was paid by production companies. We were unable to determine if any amount was paid to nonresidents, so we assumed all compensation was paid to Georgia residents. Additionally, interactive entertainment production supported \$6.8 million in indirect income and \$11.2 million in induced income.

Each interactive entertainment production company job supported 2 jobs in other industries.

The production activity resulted in 202 direct jobs at the interactive entertainment companies. These include roles such as programmers and graphic artists. Each production company job supported two jobs in other industries, for 144 indirect jobs and 261 induced jobs.

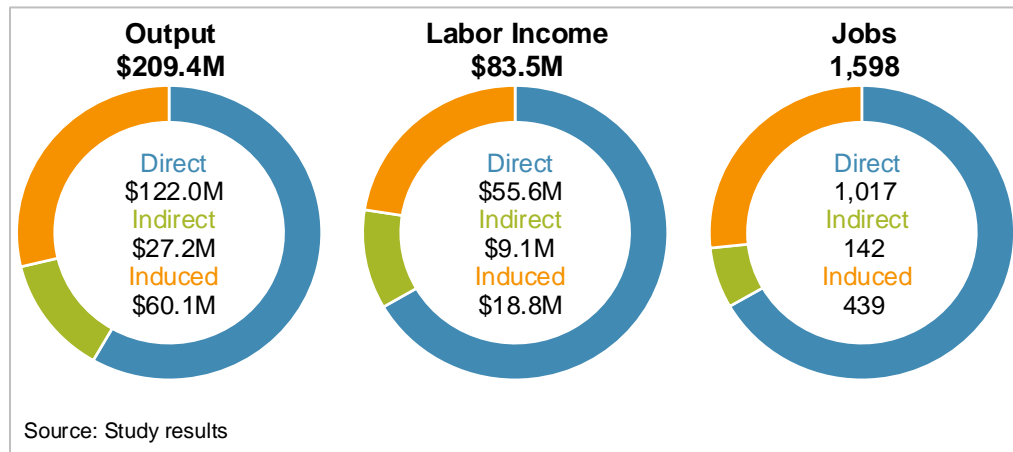
Increase in Spending by Associated Industries

Production company spending alone does not reflect all economic benefits that occurred in 2016 as a result of the film tax credit. While many industries associated with film are captured in the production company analysis above (e.g., hotels, catering, equipment rentals), two industries are not. Both studio construction and film tourism have resulted from the increased production activity; however, neither are directly incentivized by the credit. Each represents a significant, albeit smaller, contribution to the overall economic activity.

Studio Construction

The increased film production activity resulting from the credit has led to the need for additional studio space – both newly constructed studios and expansion of existing studios. Studio construction had a total economic impact of \$209.4 million in 2016, as shown in Exhibit 16. We identified five studios that spent an estimated \$122.0 million on construction, which would support an additional \$27.2 million in indirect output and \$60.1 million in induced output.

Exhibit 16 Economic Impact of Studio Construction, 2016



The studio construction resulted in total labor income of \$83.5 million, of which \$55.6 million was direct spending by the studios. Additionally, the construction supported \$9.1 million in indirect income and \$18.8 million in induced income. The construction activity resulted in 1,017 direct jobs at the construction companies, as well as 142 indirect jobs and 439 induced jobs.

Studios themselves do not represent a significant source of employment, because most workers are employed directly by the production. Additionally, future studio operational costs would become part of the indirect effects of the production activity discussed on page 13, because production companies earn the credit for studio rental fees.

It should be noted that construction expenditures can vary significantly from one year to the next. The figures in Exhibit 16 are specific to 2016 and may not be consistent with past or future years. Similarly, construction is not directly related to the level of production spending in a given year. For example, an increase of 25% in production spending would not necessarily lead to a 25% increase in construction spending. As a result, in other years, the level of construction activity may not be consistent at this spending amount or this proportion of production activity.

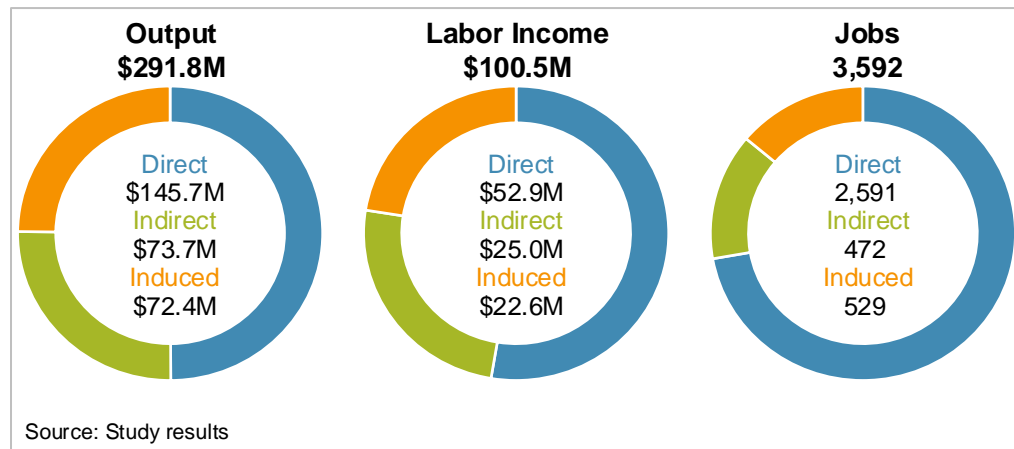
Film Tourism

Film can generate economic activity from tourists drawn to locations seen in movies and television shows. Film tourism is difficult to assess because people visit these sites for many different reasons, which are often unrelated to film. Tourism is impacted when film draws new visitors that would not have otherwise visited the state.

We estimated the level of 2016 film tourism in Georgia, not the tourism generated by projects receiving the credit in 2016. Film tourism analysis is typically anecdotal, based on the effects of individual movies and television shows and potentially occurring years after production. As a result, it is currently not possible to estimate film tourism generated by projects produced in 2016. Instead we estimated the number of tourists visiting the state that were at least *partially* motivated by film and that participated in tourism and sight-seeing activities.

Film tourism had a total economic impact of \$291.8 million in 2016, as shown in Exhibit 17. We estimated that film-motivated visitors spent \$145.7 million in Georgia in 2016, supporting an additional \$73.7 million in indirect output and \$72.4 million in induced output.

Exhibit 17 Film Tourism Impact, 2016



Film tourism resulted in total labor income of \$100.5 million, of which \$52.9 million was direct spending. Additionally, the tourism supported \$25.0 million in indirect income and \$22.6 million in induced income. The tourism activity resulted in 2,591 direct jobs and supported an additional 472 indirect jobs and 529 induced jobs.

We identified a 2011 study commissioned by the Motion Picture Association (MPA) that also estimated film tourism in Georgia. The study did not disclose the methodology used to generate its spending estimates, so we were unable to validate it. However, we did evaluate the tourism impact using the percentage of tourism spending the report attributed to film.¹³ Using this percentage, total film tourism-related output would be \$444 million, supporting \$153 million in labor income and 5,487 jobs.

Many Films Unlikely to Impact Tourism

Films are more likely to generate tourism if they prominently feature identifiable and accessible locations. Tourism is also affected by the popularity of the film and viewers' interest in the specific locations shown. The Lord of the Rings movie trilogy is a frequently cited example for film tourism. The successful movies extensively showcased landscapes that tourists could, and did, visit in New Zealand. In Georgia, the 1991 movie Fried Green Tomatoes has driven visitation to the town of Juliette, where visitors can dine at the Whistlestop Café featured in the movie.

Not every film project will generate tourism, and the level of tourism will vary for the ones that do. For example, a popular movie set in Georgia that prominently features a natural tourist attraction (e.g., Tallulah Gorge) is more likely to draw visitors than a poor-performing movie where Atlanta stands in for New York City, preventing local landmarks from being shown.

¹³ We calculated a ratio based on the study's estimated film tourism spending to total tourism spending for 2010. We then applied this ratio to 2016's total tourism spending to calculate direct spending for film tourism.

The film tax credit does not increase production companies' income tax liability because income taxes owed are not based on production costs.

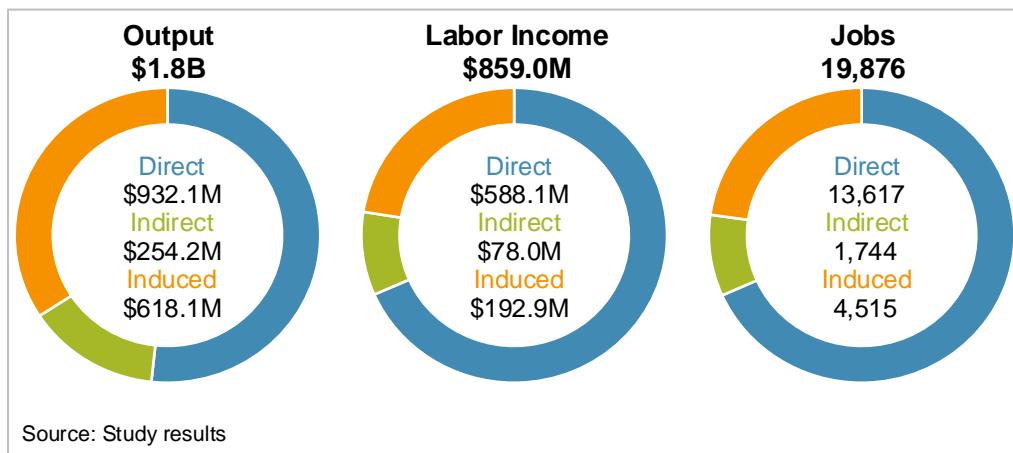
Also, the credit is typically sold to taxpayers that would have paid taxes in the absence of the increased production company activity.

Decrease in Government Spending

The \$667 million in film tax credits generated in 2016 reduced state revenue available to spend in other policy areas. If these funds were spent on other programs, the additional government spending would have also generated indirect and induced effects. As a result, economic effects of the film tax credit must consider the forgone government spending and its economic effects.

To maintain a balanced budget, the state must reduce government spending to offset the reduced revenue. We evaluated the impact of a government spending reduction totaling \$667 million in the state's two largest policy areas – education and healthcare.¹⁴ These expenditures account for 73% of the state's fiscal year 2016 budget. If the \$667.2 million in state funds had been spent on education and healthcare, this would have resulted in \$932.1 million in direct spending (output), as shown in Exhibit 18. (The additional amount comes from an estimated \$264.9 million in federal matching funds for Medicaid.) The government spending would also have supported \$254.2 million in indirect output and \$618.1 million in induced output for a total impact of \$1.8 billion.

Exhibit 18
Forgone Economic Impact of Government Spending, 2016



Of the \$932.1 million in direct spending, we estimated that \$588.1 million would have been spent on labor income. Additionally, the government spending would have supported \$78.0 million in indirect income and \$192.9 million in induced income.

The government spending would have resulted in an estimated 13,617 direct jobs. It also would have supported an additional 1,744 indirect jobs and 4,515 induced jobs.

The General Assembly could have chosen other ways to spend the forgone revenue resulting from the credit. However, any expenditure would have resulted in a positive economic impact to the state, including additional labor income and jobs. Some industries would have resulted in a greater impact than education and healthcare, while others would have had a lesser impact.

¹⁴ Other policy areas were not adequately represented by industries in IMPLAN.

GDEcD Response: GDEcD did not agree with the methodology used to reach the \$2.8 billion net impact. The agency noted that DOAA calculated the total economic output at \$4.6 billion, but then decreased the amount by assuming that government spending of the \$667 million in forgone tax revenue would have been spent on Medicaid and education, generating a \$1.8 billion impact and 20,200 jobs.

“The conclusion that the \$667 million in forgone tax revenue could be used to generate a \$1.8 billion government impact on the Georgia economy and would have created 20,200 additional government jobs relies on the presumptions that: i) the taxpayers that ultimately purchased and used the film tax credit would have been unable to find some other way to lower their tax liabilities; ii) that those same taxpayers would have used all of their purchased credits in 2016 and not carried them forward to future tax years at a discounted value; iii) the state actually had a need to increase government and to spend the \$667 million rather than saving it; and iv) that the state would have specifically spent the \$667 million on Medicaid and education and would be able to get the federal match for Medicaid. The conclusion also ignores the fact that the taxpayers purchasing the tax credits to offset liability in the state would have more capital that would likely be used which would generate some level of economic activity within Georgia.

“GDEcD believes that a better approach is to simply present (a) the impacts of the film tax credit and to present (b) the impacts if the state had increased spending by the \$667 million in 2016 rather than to attempt to net out the effects. In other words, one can analyze the impact of the tax credit program on the state economy without backing out hypothetical and speculative spending reductions.”

Auditor’s Response: We are aware that the General Assembly may have spent the forgone revenue in a different manner. However, we believe that an impact model using the policy priorities demonstrated in the 2016 budget provides a reasonable and fair basis for the analysis. Our report presents each component of the impact, as well as the net, providing a more complete picture of the credit’s impact in comparison to GDEcD’s suggestion to simply disregard the cost of the credit to the state’s economy.

As noted in the finding, if the General Assembly had spent the funds in other areas, there would have been an economic impact higher than \$667 million because all industries in Georgia have a multiplier greater than one. The forgone government spending generates indirect and induced effects in the same manner as the other sectors that were modeled. It is not clear why economic impacts of government spending would be hypothetical and speculative if the impacts of the other sectors are not. Regarding GDEcD’s concerns detailed above:

- i. It is unlikely that taxpayers would spend money to purchase the film tax credit if they had another option for a tax reduction.
- ii. As noted on page 20, no usage data is currently available. If the audit team had assumed equal usage over a 6-year period using the state’s bond rate as the discount rate, the difference in the credit’s cost would be approximately \$22 million, a difference of approximately 3%.
- iii. Assuming the state would have saved all of the credit’s funding is an option that would have lowered the impact on the economy in 2016 and increased the impact in a later year when those funds were used. However, based on an increase in state fund spending

of more than \$1 billion from FY 2016 to FY 2017, we believe our assumption is reasonable.

- iv. *The forgone spending was modeled as spending on education and healthcare, not Medicaid spending only. The federal match used in the analysis was actually obtained by the state on its Medicaid spending in 2016. While the state may earn federal matching funds in other policy areas as well, the Medicaid matching funds had a significant effect on the forgone government revenue in this scenario. As a result, this matching amount was added to the healthcare spending total.*
- v. *GDEcD's determination that taxpayers purchasing the credit would use the funds to increase economic activity within the state is speculation not based on actual data. High-income individuals and multi-state corporations typically purchase the credit from production companies for less than face value (e.g., 90% of the credit amount). There is no way to reliably determine their savings from the purchases or any increased economic activity that may have been generated from the savings.*

Finding 2: Tax revenue generated as a result of the economic activity inspired by the film tax credit offsets only a small portion of the credit.

Significant revenue losses were also found in film incentive studies conducted by other states.

The economic activity generated by the film tax credit does not generate sufficient additional revenue to offset the credit, even after considering tourism and studio construction. In 2016, the film tax credit resulted in a net revenue loss to the state estimated at \$602 million. The state's return on investment for the credit was 10 cents for each dollar, though local governments received an additional return of 11 cents in revenue.

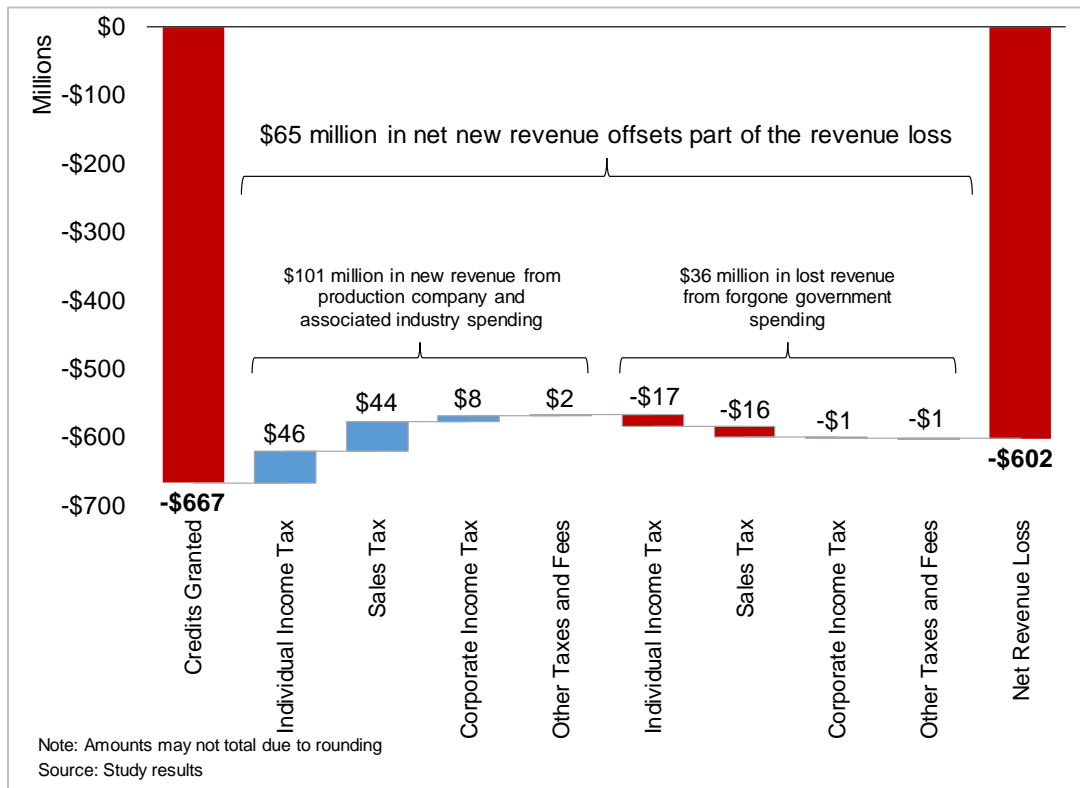
As discussed on page 18, the \$667 million in film tax credits reduced state income tax revenue.¹⁵ However, additional economic activity resulting from the credit generates additional revenue to partially offset this revenue loss. For example, production companies pay sales tax on items purchased in-state, and their employees pay income tax on their wages. Additional taxes are also generated from indirect and induced spending.

When considering the additional state revenue generated by the new activity, as well as forgone revenue related to the credit, the net revenue reduction for the state in 2016 was estimated at approximately \$602 million. As shown in **Exhibit 19**, approximately \$65 million of the credits are offset by new state tax revenue (primarily individual income tax and sales tax) generated by the \$2.8 billion in additional (net) economic impact. The new economic activity from the credit generates new state revenue of \$101 million from production company (91%) and associated industry (9%) spending. However, the forgone government spending discussed in the previous finding would have generated \$36 million in revenue. Given the net increase of 9,130 jobs, the credit's cost per jobs is approximately \$65,950.

The 2016 estimated cost per job was \$65,950.

¹⁵ We assumed all credits were used in 2016 or soon thereafter. Due to the five-year carryforward period, not all credits are used in the year they are earned. However, DOR does not currently have sufficient information to determine when credits are used against tax liability.

Exhibit 19
\$602 Million Estimated Net Revenue Loss Due to the Film Tax Credit, 2016



The net new tax revenue of \$65 million leads to a return on investment to the state of 0.10, meaning that for every dollar of credit granted, the state receives 10 cents in tax revenue. A return on investment of greater than one would indicate the credit generates more tax revenue than is lost, and a return on investment of exactly one would indicate the credit was fiscally neutral and the state broke even.

The additional economic activity from the credit also generates new local revenue. Local government revenues are estimated to have increased by approximately \$73 million due to the state film tax credit. This included \$43 million in property taxes, \$21 million in local sales taxes, and \$9 million in other taxes and fees. If local and state revenues are combined, the return on investment is 0.21. However, the cost of the credit is borne entirely by state taxpayers, and the increased local revenue is unevenly distributed across the state, since most production activity occurs in metro Atlanta.

Production activity in Georgia does not increase income taxes owed by companies.

Some economic development incentives, such as certain sales tax exemptions, result in the state forgoing revenue that would not exist unless the company locates in Georgia. In other words, the state may not give up existing revenue but does not collect additional revenue as a result of the company's relocation to the state. The film tax credit does not fall into this category.

Increased production activity in Georgia does not necessarily lead to higher state income tax liability for the production companies. Income taxes are primarily based on a company's sales (or other receipts) in Georgia, which are not necessarily higher because the project was produced in Georgia. The film tax credit incentivizes expenditures in the state, but the corporate income tax owed is based on a company's Georgia receipts.

GDEcD Response: “GDEcD takes issue with DOAA's conclusion that the cost per job for the film tax credit was [\$65,950]. DOAA presumably reaches this figure by dividing the [\$602] million net revenue loss (as shown on Exhibit 22) by the [9,130] net jobs created and reflected in Exhibit 16. However, this approach is inaccurate as it "charges" the Tax Credit for the \$566 Million (\$667 Million less \$101 Million) in net tax revenue lost while does not charge the "forgone government spending" for the net expenditure (\$667 Million less [\$36] Million). The DOAA analysis assumes the [19,876] jobs created by the government spending of \$667 million were "free".

“The correct comparison is to view the tax credit as a "negative expenditure" and compare the expenditure per year.” GDEcD stated that, using the numbers in the finding, the appropriate cost would be \$19,517 net expenditure/revenue lost per job for film (\$667 million credit minus \$101 million in new revenue divided by 29,000 jobs). The net expenditure/revenue lost per job associated with government expenditures would be \$31,746 (\$667 million credit minus \$36 million in new revenue divided by 19,876 jobs).

Auditor's Response: Our method of calculating the cost per job correctly considers all impacts of the film tax credit. It was used by the economists who conducted our study, and the economists who reviewed the study results expressed no concerns.

GDEcD's method of calculating the cost per job considers the film tax credit in isolation from its impact on the broader economy, as if the reduced revenue to the state resulting from the credit had no associated economic impact. The existence of the film tax credit not only results in new revenue and new jobs, its existence also results in less revenue and fewer jobs in other areas of the state's economy. In the absence of the film tax credit, state revenue would be higher by an estimated \$602 million (the cost of the additional jobs in the state). In the absence of the film tax credit, the state would have 9,130 fewer jobs (the number of additional jobs in the state). Using these amounts results in our reported cost per job of \$65,950.

GDEcD Response: GDEcD noted “a fundamental problem with some measure of return on economic development programs—they do not always reflect important intangibles. That said, if one wishes to measure the success a government program strictly by job creation (ignoring externalities), then the approach outlined in Finding 2 ... is inappropriate. The mere fact the film tax credit isn't fiscally positive to the state can't be used to determine the credit isn't beneficial.”

Moreover, GDEcD believes that that any calculation of tax revenue "ROI" include all taxes that accrue to Georgia - both state and local. To ignore local taxes because "the cost of the credit is borne entirely by state taxpayers, and the increased local revenue is unevenly distributed across the state, since most production activity occurs in metro Atlanta" does not reflect an impartial evaluation of the revenue generated. Presumably a local resident who benefits from increased local taxes also is a state taxpayer. Additionally, as DOAA notes, film projects, similar to economic development projects, generate taxes at both the state and local levels. DOAA's analysis acknowledges that tax benefits accrue to local governments and reporting the total state and local revenues received is more balanced and would yield higher "ROI" numbers.

Auditor's Response: We present both state and local ROI. The finding has one paragraph about the ROI to the state, which bears the cost of the credit through reduced revenue, and a longer paragraph about the local taxes generated by the film activity. The paragraph on local tax revenue shows the combined ROI.

Finding 3: The impact of the film tax credit on the state's economy has been significantly overstated, leaving decision makers without accurate information necessary to assess the credit.

GDEcD has reported inflated economic impacts for projects receiving the film tax credit. The multiplier used by the agency nearly doubles the credit's impact on the state's economy in comparison to our study results. The number of jobs supported by film production has also been significantly overstated. Inaccurate and misleading information prevents decision makers from properly assessing the costs and benefits of the film incentive.

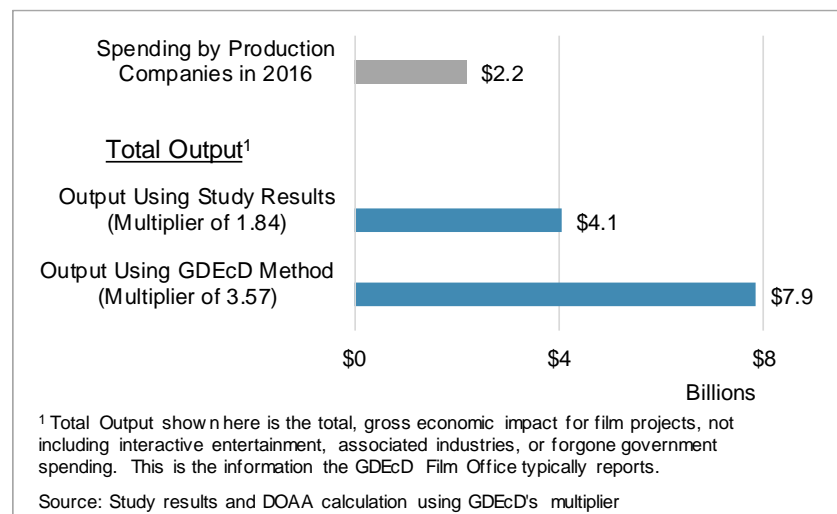
Economic Impact

GDEcD has used an unrealistic multiplier of 3.57 to report the economic impact of the film projects it certifies for the credit. GDEcD's impact figures have been reported each year to decision makers and the general public, providing both with an inaccurate view of the credit's benefits. The overstated impact of the film industry on Georgia's economy has been repeated in media reports.

Using the 3.57 multiplier generates an economic impact nearly two times the true impact, as shown in Exhibit 20. Our study found an output multiplier of 1.84 for film, which generates total output (i.e., economic impact) of \$4.1 billion when production companies spend \$2.2 billion. The same spending would generate a total output of \$7.9 billion with the multiplier used by GDEcD.

Multiplier – ratio of total economic effects to direct effects. Eighty-three percent of Georgia's industry output multipliers are less than two; none are more than three.

Exhibit 20 GDEcD's Multiplier of 3.57 Incorrectly Doubles Credit's Impact, 2016



GDEcD's Film Office has used this multiplier for more than 30 years, despite having no evidence of its accuracy. In an August 2015 Politifact article on the validity of the multiplier, GDEcD staff indicated they had no information regarding the multiplier's source or what spending was included in it. Instead, they argued that using the same multiplier allowed for consistent comparisons over time. A professor interviewed for the article stated that the actual multiplier was likely closer to 1.83, the industry multiplier shown in IMPLAN (and nearly identical to the 1.84 multiplier in our study).

It should be noted that GDEcD stopped publicizing economic impact using the 3.57 multiplier in 2019 after we began our impact study. GDEcD indicated that its own impact study would be released soon.

Jobs

The jobs data reported by GDEcD have been misleading. These reported figures have included jobs unrelated to production and those held by nonresidents.

- **Including jobs not directly related to production** – GDEcD frequently cites employment information provided by the Motion Picture Association (MPA) when discussing credit-related spending. However, GDEcD cites all jobs the entire motion picture and television industry supports instead of those directly related to production, which is the activity incentivized by the credit. As a result, the agency includes jobs unrelated to film production, such as movie theater workers, as well as the associated indirect and induced jobs.

In 2016, an MPA publication showed that Georgia had 28,472 jobs directly related to the film industry, but the same publication showed only 13,383 of those jobs were related to film production. More than 15,000 of the direct jobs were in activities not impacted by the film tax credit. The MPA reported that the film industry as a whole supported 92,500 jobs when including non-production jobs, as well as indirect and induced jobs. GDEcD has cited more than 92,000 jobs in press releases and presentations to the legislature.

- **Including nonresidents in project impacts** – GDEcD has included out-of-state workers in impacts reported for individual projects. We identified six projects for which GDEcD publicized the number of Georgians hired. However, the figure included nonresidents in each instance, inflating the employment numbers by as much as 138%. Because GDEcD cannot access DOR's tax data, its figures are based on information reported to GDEcD by the production companies after project completion. However, GDEcD's form does not specify that companies should only include Georgia residents.
- **Including nonresidents in performance measures** – In 2017, GDEcD changed its credit application to request a project's total hires instead of Georgia hires. The aggregated application data is used to report performance measures, such as work days created by production, to the Governor's Office of Planning and Budget. Simultaneously, GDEcD began reporting "work days created by film and television production" instead of "work days created by film and television production for Georgians."

RECOMMENDATION

1. To ensure decision makers have accurate information, GDEcD should use a reasonable multiplier to estimate economic impact.
2. To ensure that reported jobs are related to the film tax credit, GDEcD should avoid including jobs unrelated to production and discuss direct jobs separately from indirect and induced jobs.
3. To ensure decision makers have information on Georgia residents, GDEcD should collect information on jobs held by Georgia residents and discuss resident and nonresident jobs separately.

GDEcD Response: Regarding the multiplier, GDEcD stated that “The Film office has used the 3.57 multiplier for more than 30 years. This figure has historically been referenced as the Federal Reserve Turnover. In 2010, the MPAA commissioned a study of the film tax credit, but the 3.57 multiplier was not evaluated. The study found that Georgia’s Film Tax Credit had created ‘significant economic impact, adding over \$800 million annually to the State Gross Product’ and that ‘the Georgia economy and the State fiscal situation would be substantially worse had the state not provided the film tax credit but had instead used the equivalent amount of funds for other purposes.’”

GDEcD noted that it contracted for a study in 2016, but unforeseen issues prevented the researchers from completing the work in the needed timeframe. In 2018, GDEcD had Dr. Alfred Meek with Georgia Tech take over the study. “GDEcD received the completed Meek study in 2019 which concluded that the multiplier was 2.03 (the Meeks Multiplier) and that the actual economic impact was \$8.6 billion in FY17 (the Meeks Impact), rather than \$9.5 billion as reported by GDEcD.

“Through the commission of the study (which analyzed FY17 rather than 2016), GDEcD also learned that direct spend numbers used from the Certification Applications on the front end may be unreliable, as evidenced by Meek’s study which reported a considerably more robust direct spend at \$4.2 billion as opposed to the \$2.6 billion that GDEcD had reported. GDEcD is willing to use the Meeks Multiplier moving forward.”

Auditor’s Response: GDEcD earlier noted that an audit should be “neutral, unbiased, and present information in a fair and independent manner.” Relying on a study commissioned by the Motion Picture Association is inconsistent with that criteria.

Regarding the Meek study, the “more robust” spend used for direct output is contradicted by the available evidence. Meek reviewed the DOAA study methodology, which included utilizing the production companies’ reported spending instead of the IMPLAN-calculated direct output. Meek stated that our direct output figure was more accurate, and he agreed to use this number instead but ultimately did not. The decision to disregard production company data greatly increased the impact of the credit reported in his study.

There is no basis to believe an IMPLAN direct output result is more reliable than the known spending amounts from GDEcD or DOR data. In fact, IMPLAN recommends using other sources of information when they are more reliable than the IMPLAN parameters. (We further discuss the problems with using the IMPLAN results for direct effects on page 43 and 45 of [Appendix B](#)) Instead of the DOR data used by DOAA, the Meek study could have used the \$2.7 billion found in GDEcD application data or the \$2.1 billion identified during his review of GDEcD expenditure forms companies submit after production. Either of these would have been a more reasonable estimate than the one chosen, given the \$2.2 billion in production company spending reported to DOR for CY 2016 (six months overlap with FY 2017). Given Meek’s acknowledgement that DOAA had the most accurate data of production company spending (DOR data), the decision to use the IMPLAN-generated number of \$4.2 billion in direct output only serves the purpose of increasing the reported impact of the film tax credit, rather than presenting an accurate assessment of its effectiveness.

Despite our concerns with the Meek study, we are pleased that GDEcD will use a more reasonable multiplier going forward. However, if the agency disregards the spending

reported by production companies and applies the multiplier to an inflated number, it will continue to inflate the credit's impact.

GDEcD Response: Regarding its reporting of jobs numbers, GDEcD stated that it “has traditionally used the MPA's annual state profile to update film jobs in the state. When GDEcD reports these numbers, they have always been attributed to the Motion Picture Association, and in the same way—as a total comprised of 'direct, indirect and induced jobs' that are supported by the motion picture industry in the state of Georgia. Contrary to DOAA's suggestion, there has never been an attempt by GDEcD to imply that these jobs are all direct jobs, or that these jobs are all the product of the Film Tax Credit. Use of these figures is intended to demonstrate the large impact that the film industry as whole has on Georgia's economy both through the number of jobs and the amount of direct and indirect spend which are attributable to the industry.

“According to the Georgia Tech study, which excluded non-production related employment such as theatre workers, the film industry supports nearly 51,000 direct and indirect jobs and \$2.6 billion in personal income in the State. Moving forward, GDEcD is willing to report both direct and indirect jobs figures using the methodology provided for in the Georgia Tech study, which excludes non-production related employment.”

Auditor's Response: It is not our suggestion that GDEcD was misrepresenting the 92,000 as “direct jobs,” and we find no fault with the agency including indirect and induced jobs when adequately disclosed. The fault lies in GDEcD presenting these numbers together with credit-related investment without disclosing that many of the jobs are unrelated to film production. GDEcD typically cites spending from film tax credit applications and then cites the MPA's job numbers for the broader film industry, which includes additional jobs (i.e., theater workers, local news station employees). By highlighting 92,000 in its press releases regarding industry spending, GDEcD successfully tied a significantly inflated number of jobs to the film tax credit.

As noted above, the Georgia Tech (Meek) study overestimates the impact of the film production industry in Georgia, including the number of jobs. The inflation is primarily attributed to its reliance on IMPLAN to calculate the direct effects, which increases the number of indirect and induced jobs. As noted above, the study disregarded lower output amounts found in agency data, opting for a much higher number provided by IMPLAN. This inflated number overstates the economic output related to the credit, as well as the number of jobs.

GDEcD Response: Regarding the collection and reporting of resident and nonresident jobs, the agency noted that it “is already capturing information on jobs held by Georgia residents in comparison to those held by non-residents. However, GDEcD states that it intends to continue to include nonresident in both project impacts and its performance measures as these jobs are in Georgia, are subject to paying Georgia taxes, and have an impact on the Georgia economy.”

The agency noted that when it cites individual project impact, it is using reports provided by production companies after a project has wrapped. It noted that the 2014 version of the report has “lines requiring the dollar amount spent on 'Georgia Crew Hires,' 'Georgia Cast Hires,' and 'Georgia Extras Hires.' Although the form did not specifically refer to 'Georgia Residents', it did make the delineation between Georgia vs. Non-Georgia Crew, Cast and Extras.” It noted that the current

version, used since October 2018, “specifically lists Georgia crew, cast, and extras, the number of resident versus non-resident hires, the number of 'Local Hires' for cast, crew, security, extras, office personnel, and off-duty government personnel. Therefore, GDEcD is already collecting information on jobs held by Georgia residents compared to jobs held by non-residents.”

The agency noted that “however, generally speaking, GDEcD does not distinguish between jobs held by Georgia residents from those held by non-residents. For example, in the instance of a company that is located near the state border, GDEcD does not distinguish between jobs held by Georgia residents from those held by nonresidents. A job is a job. The amended CSR reflects this approach in that it seeks to capture the grand total spend for all personnel working on a particular project because all of these jobs (regardless of whether they are held by a resident or a non-resident) are subject to Georgia payroll and income taxes. Nonresident contributions to the state economy have a substantial positive impact (while utilizing fewer services than residents) and their effects should be understood and incorporated into the report as currently their impact is merely a subtraction from the impact.

GDEcD also stated that the audit uses old data that “likely does not capture the growth of the Georgia screen sector and its relationship to the economy which has rapidly outpaced the information from this period, including: 1) the proliferation of workers relocating to Georgia from across the country and around the world; 2) the rapid development of skill sets of GA residents (credit in part to the GA Film Academy) who have advanced up the respective production departments to meet the burgeoning demand for skilled workforce; and 3) it does not consider that nonresident hires spend wages or income in Georgia. However, according to Russell Hinton, director of DOAA in 2008, in the Film Tax Credit fiscal note and in relation to non-resident labor expenditures, Hinton stated ‘[f]or both above the line and below the line non-resident labor expenditures, the assumption is that 10 percent of those expenditures would be based in Georgia for items such as entertainment and restaurant meals. This 10 percent is based on data from the Bureau of Labor Statistics Consumer Expenditure Survey.’ Despite this statement from its prior director, DOAA mainly ignores the impact of the expenditure of nonresident wages in this audit.”

Auditor’s Response: Contrary to GDEcD’s assertion, the earlier version of the form made no distinction that would lead companies to report only cast and crew with Georgia residency. As we observed during our review, companies reported nonresidents working in Georgia on the forms, which GDEcD then reported as “Georgians hired.” The change to the form that GDEcD noted in their response should help address the issue.

We believe that the state’s economic development agency should recognize the greater value that a resident’s job holds for the state. While a nonresident may be in the state for weeks or months for a production and pay taxes on the income earned in-state, residents undoubtedly spend more of their income in Georgia, pay a variety of state and local taxes, and are the primary constituents of state government.

It should be noted that, while we did include nonresident wages in the direct output (and as a result the overall impact), they were not included in the calculation of induced effects for movies and television. The decision to do so was based on IMPLAN instructions and our interviews with a variety of industry experts. While a 10% assumption may have been used for a fiscal note in 2008, the reality is that living expenses are typically paid by production companies, in accordance with union and/or individual contracts. In a paper commissioned

by the Motion Picture Association, the consultant stated that labor income “can be limited to the compensation paid to in-state residents” for a film incentive impact analysis.

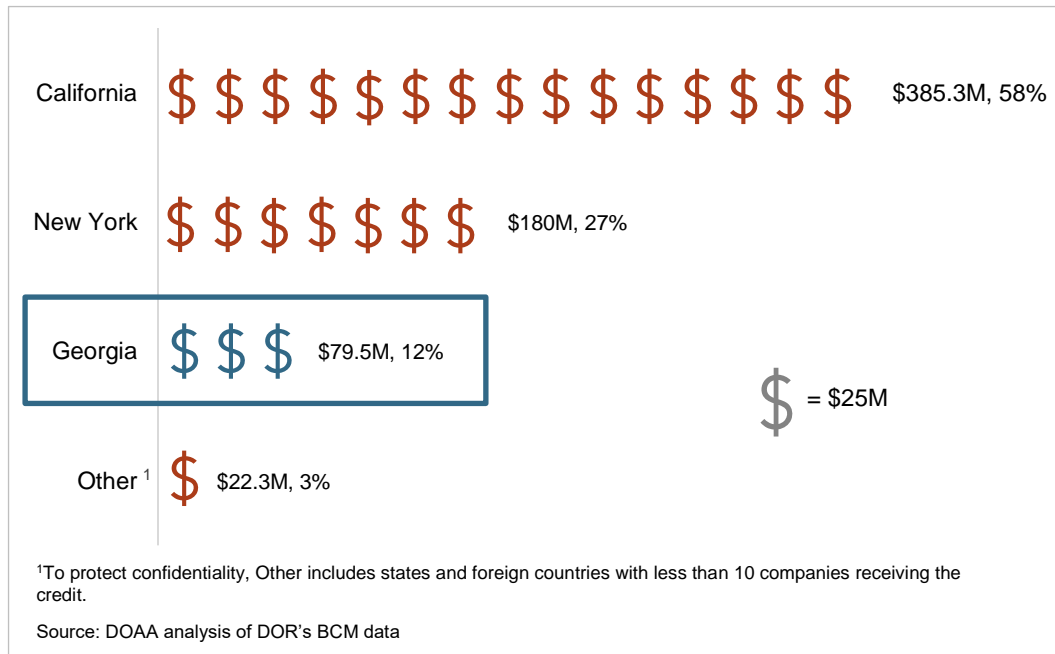
Finding 4: A significant portion of the credit’s benefits accrue to other states.

While the film tax credit increased economic activity in Georgia, it has also provided significant economic benefits to other states. In 2016, most of the credit was earned by out-of-state production companies, and more than one-third of the credit was earned for compensation paid to nonresident workers. We also identified instances where companies earned the credit for items purchased or rented from out-of-state.

Out-of-State Production Companies

Most production companies receiving the film tax credit do not have permanent locations in Georgia. As shown in Exhibit 21, just 12% of the credits (\$79.5 million) awarded in 2016 went to companies with permanent Georgia locations, while the remaining 88% (\$587.7 million) went to companies based in other states.¹⁶ A location does not affect a company’s Georgia income tax liability, but permanent locations do have permanent employees with salaries contributing to the state’s economy.

Exhibit 21
88% of Film Tax Credits Went to Non-Georgia Companies, 2016



Film incentive programs are not designed to recruit production companies to the state, only to lure productions. Due to the mobile nature of filming, a company can move the production location of a movie or television show without changing the company’s location. Once the incentivized project is completed, the economic activity related to the production ends, and the company can produce future projects in the

¹⁶ Companies may set up a temporary production office for the duration of a specific project.

same or a different state. To attract productions, Georgia’s film tax credit provisions are the same for both in-state and out-of-state companies.

Nonresident Workers

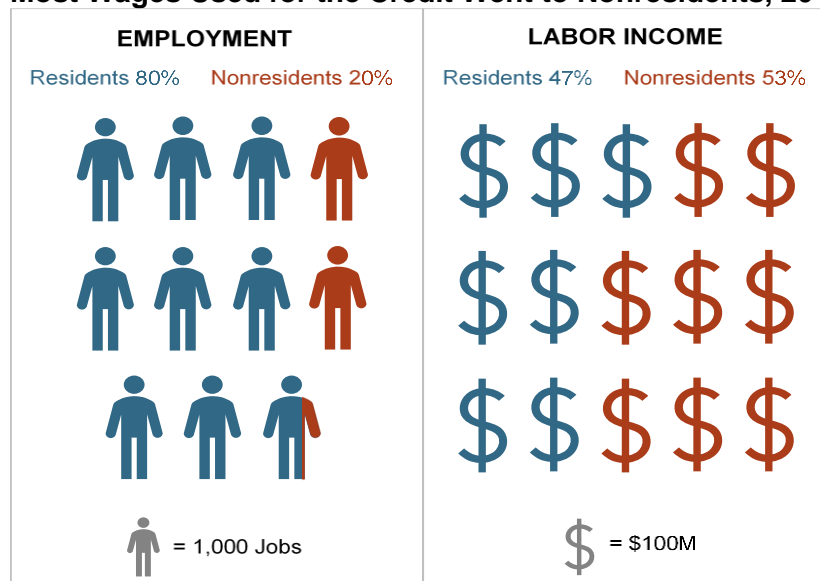
Georgia provides the same credit rate for workers’ wages regardless of their resident state, and a significant portion of jobs, especially higher-paying jobs, are held by non-Georgia residents. As noted on page 14, wages paid to nonresidents have a minimal impact on the state’s economy (though nonresidents may be required to pay income taxes). Production companies pay nonresident workers’ living expenses, so these workers are unlikely to spend a significant portion of their wages while working in-state.

In 2016, nonresident labor accounted for \$245 million in credits, or 37% of the total credit amount.

Labor is production companies’ largest expense, and most labor income went to nonresident workers. In 2016, film production companies spent \$1.5 billion on labor income, representing 68% of total direct spending. Of this amount, we estimated that nonresidents received \$818 million (53%). The credit amount associated with nonresident labor was \$245 million, or 37% of the total credit generated in 2016.

Nonresidents receive the largest portion of labor income because they hold the higher paying jobs. While film production companies created approximately 10,919 jobs in Georgia in 2016, we estimated that 80% of the jobs are held by Georgia residents. However, Georgia residents received only 47% of the labor income (see Exhibit 22). Higher paying jobs such as principal actors, directors, and department heads are generally filled by nonresidents. Lower paying jobs such as security, grips, and extras are more frequently filled by Georgia residents. Additionally, large budget movies, which receive some of the largest credits, spend a larger portion of their expenditures on nonresident labor than smaller budget movies or television. (See [Appendix E](#) for distribution of resident and nonresident wages by project type and budget size.)

**Exhibit 22
Most Wages Used for the Credit Went to Nonresidents, 2016**



Source: DOAA analysis of DOR film tax credit audit documentation

Loan-out companies provide individual personnel (e.g., principal actors, directors, producers), who are generally the most highly-paid workers.

Similarly, nonresidents are more likely to benefit from the wage cap exception for loan-out companies that are typically used by the most highly-paid workers. Statute places a \$500,000 cap on eligible compensation paid to individual employees; however, the cap does not apply to workers from loan-out companies. In 2016, at least \$52 million¹⁷ in film tax credits was earned for compensation above the \$500,000 cap, where the payment was made to a loan-out company, and \$42 million (81%) of this amount was for nonresident wages. The \$42 million represents 6% of the total credit generated in 2016.

Twenty of the 31 other states (65%) with film incentives have one or more provisions that require or incentivize hiring residents over nonresidents. Ten states have a residency requirement such as specifying a certain percentage of resident labor, allowing nonresident labor to qualify only for certain positions, or disallowing all nonresident labor. Thirteen states incentivize hiring residents by offering additional credits for resident labor, allowing higher incentive percentages for residents, or placing more restrictions on qualifying nonresident labor spending.

Out-of-State Vendors

Out-of-state vendors benefit from Georgia's film tax credit if they provide services within the state. Additionally, not all out-of-state expenditures that should be ineligible are identified and disallowed by DOR auditors. We were unable to determine the total amount of payments to out-of-state vendors.

Georgia vendor – vendor with a physical location in Georgia with at least one individual working at such location on a regular basis

Production companies are allowed to take the film tax credit for services provided in-state by out-of-state vendors. While purchases and rentals are only eligible if provided by a Georgia vendor, payments to out-of-state vendors are eligible if the vendor is providing a service at the filming site. For example, equipment rentals are ineligible if obtained from an out-of-state vendor. However, the same vendor can service the equipment on-site, and the service cost is eligible for the credit.

Additionally, our review of the credit's administration found that production companies may receive the credit for some out-of-state expenditures. DOR auditors did not identify and disallow all expenditures with non-Georgia vendors. In addition, auditors allowed items shipped from out-of-state as long as the vendor had an in-state location. Despite the vendors having a Georgia location, the out-of-state origin for the transaction provides limited economic benefit to the state.

It is also worth noting that most projects are not audited, and DOR does not review expenditures outside of the audit process. If out-of-state expenditures were used toward the credit in an unaudited project, DOR would not identify and disallow them.

RECOMMENDATION

1. The General Assembly should consider changing the credit's provisions to reduce the credits allowed for out-of-state workers and service providers.

¹⁷ These calculations are based on DOR's loan-out withholding data for 2016, which was incomplete. Production companies can pay withholding in subsequent years to address shortfalls identified in audits. Our review of three audited projects found \$20 million in loan-out wages (\$6 million in credits) missing from the 2016 data, so the missing data appears significant.

GDEcD Response: GDEcD noted that the General Assembly had changed the 2005 version of the film tax credit that included varying credits for Georgia residents and nonresidents. It noted that the revision “demonstrates an intent to incentivize wages paid to Georgia residents the same as those paid to non-residents. In stating that the General Assembly should consider changing the credit’s provisions to reduce the credits for out of state works and service providers, DOAA is substituting its own judgement for more than a decade of conscious policy decisions by the Georgia Assembly and multiple Governors’ offices.”

Regarding out of state production companies, GDEcD stated that the fact that 88% of credits go to companies based in other states “demonstrates exactly why the film tax credit is needed—the parent companies of the production companies that undertake productions are mostly located outside of Georgia. The film industry is inherently mobile, and production companies can undertake productions wherever it makes the most sense to do so. The goal of the film tax credit is to incentivize productions to shoot in Georgia. This results in job creation within the state, and as DOAA notes, the establishment of a significant number of studios within Georgia to accommodate the productions.”

Regarding nonresident workers, “GDEcD states that it is not a production company’s preference to bring in labor from out of state as it costs more in housing and per diem. Admittedly, some out of state labor has been necessitated by the rapid increase in productions. The Georgia Film Academy with more than 4,000 Georgians on the waitlist is addressing the crew shortage so that more productions can utilize a greater percentage of Georgia resident labor. As DOAA notes in its audit, an estimated [80]% of all direct production jobs were held by Georgia residents in 2016. GDEcD suspects that the percentage of Georgians filling direct production jobs is even higher now in 2020 due to there being more experienced Georgians to fill these positions.

“Third, with respect to out of state vendors, GDEcD states that the conclusions that DOAA reaches with alleged ineligible out of state expenditures have not been quantified, but nonetheless would largely be prevented by requiring mandatory audits for all Film Tax Credit projects. GDEcD supports this requirement.”

Auditor’s Response: DOAA’s recommendation is intended to make the credit more efficient by increasing the indirect and induced effects in the state. The recommendation is based both on the practices used by other states and on the benefits we observed that accrue to other states. The finding notes issues that increase the cost of the credit to the state but have a limited benefit for Georgia’s economy. As the General Assembly has not received accurate, detailed data regarding these issues in the past, it is important to consider them as part of a thorough discussion of the credit’s overall impact.

As noted in GDEcD’s response on page 34, two of the four “markets most aligned to be Georgia’s competition” exclude nonresident actor, producer, and director salaries. The third jurisdiction excludes all actor, producer, and director salaries. While Georgia’s allowance for these expenditures may be a significant factor in attracting some projects, the high wages for these jobs contribute to Georgia having a higher percentage of wages being paid to out-of-state workers. It seems likely that more Georgia residents are hired now by production companies than in 2008, but the most highly-paid jobs are still typically filled by residents from states such as California and New York where the film industry is concentrated and major studios are headquartered.

Mandatory audits of all productions would likely reduce ineligible out-of-state expenditures but would not eliminate them. Production companies would still receive the credit for on-site services provided by out-of-state vendors and items shipped by vendors with a minimal presence in the state. Additional limitations of current audit procedures are discussed in our report on the credit's administration (pages 21-27 and 46).

Finding 5: Most states with a film incentive have program caps to limit the fiscal risk to the state.

Evaluations in other states conducted by independent entities have generally found film incentive programs to result in a low return on investment and/or significant revenue loss.¹⁸ While film incentives may provide economic benefits, they do so at a cost to taxpayers. In Georgia, unchecked growth of the film tax credit, combined with new tax revenue that covers only a fraction of the revenue lost, resulted in an estimated \$602 million net revenue loss for 2016 projects. Ultimately, a growing credit must result in a reduction in state government services or higher taxes for other Georgia taxpayers.

Many states with a film incentive program (tax credit or rebates) have implemented some type of cap to limit their fiscal risk. This includes states with significant film industries such as California and New York.

No Credit Cap Poses Fiscal Risk and Uncertainty

Large, uncapped incentives can impact the state's ability to collect sufficient revenue to achieve its policy goals. Best practices for incentives indicate that an annual cap is one of the strongest protections against escalating program costs.

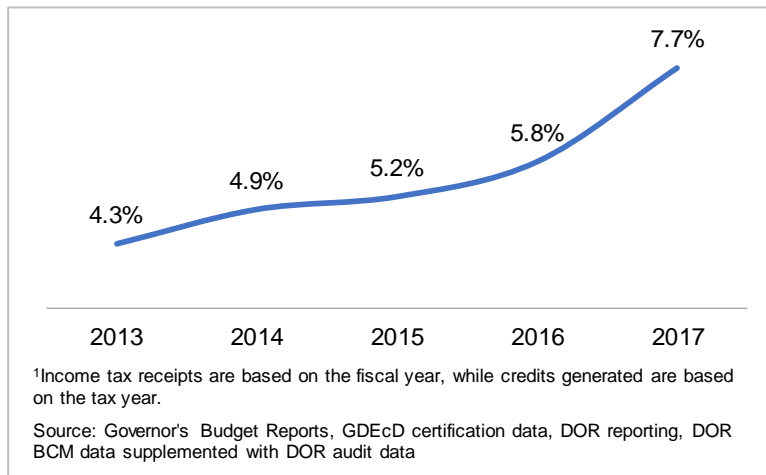
With the exception of QIEPCs,¹⁹ Georgia does not cap the film tax credit—neither the total amount of the credit granted nor the amount an individual project can receive. Consequently, the credit grew from approximately \$407 million in 2013 to \$915 million in 2017, an increase of 125% in four years.

The growth of the film tax credit has an increasingly negative impact on state income taxes, the state's largest source of revenue. From 2013 to 2017, the film tax credit grew by 125%, while state income tax receipts (both individual and corporate) grew by 25%. The amount of credits generated as a percent of income tax receipts grew from 4.3% to 7.7% (see **Exhibit 23**).

¹⁸ Studies did not always include both a return on investment and a net revenue loss.

¹⁹ Credits for QIEPCs are capped at \$12.5 million in aggregate and \$1.5 million per company and its QIEPC affiliates. The aggregate cap was reached for the first time in 2017.

Exhibit 23
Film Tax Credits are Growing as a Percent of Income Taxes,¹ 2013-2017



In March 2019, DOR reported \$1.7 billion in credits not yet claimed (for credits generated through tax year 2017).

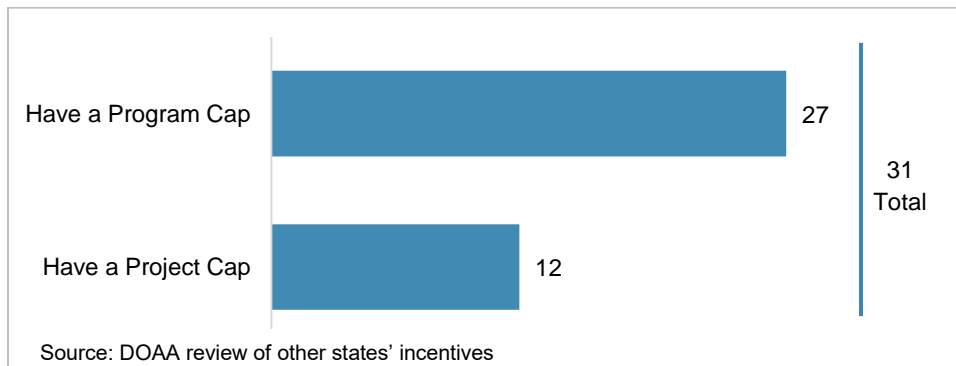
Most state credits are limited to an individual's or a company's tax liability, which provides a type of cap in that a portion of the credit may go unclaimed. However, the film tax credit can be sold, allowing the production company to monetize the credit and transfer unclaimed amounts to other taxpayers who use the credit to reduce their own income taxes.

The credit's growth and five-year carryforward period have resulted in a significant amount of credits not yet claimed. DOR reported \$1.7 billion in credits generated through tax year 2017 not claimed as of March 2019.²⁰ The outstanding credits could be claimed at any time.

Other States

Most other states have implemented film incentive caps to manage the fiscal risk to their state budgets. Of the 31 other states with a film tax credit or rebate, 27 states (87%) have a program cap, which limits the total amount that can be granted in a given year. As shown in Exhibit 24, 12 of these states also have caps that limit the amount an individual project can receive. Other state caps are discussed in [Appendix C](#).

Exhibit 24
Most Other States Cap Their Film Incentives



²⁰ The unclaimed credits discussed on page 6 are only through tax year 2016.

Film incentive program caps range from \$3.5 million (Washington) to \$420 million (New York), though some states allocate varying amounts each year. New York has the second largest incentive after Georgia.

States use differing methods to allocate incentives to eligible projects. Of the 27 states with a program cap, 12 allocate the incentive on a first-come, first-serve basis and eight evaluate projects using established criteria. For example, Virginia selects projects based on criteria such as in-state spending, jobs and wages for residents, and impact on local businesses.

In addition to program caps, 12 states have project caps to limit the incentive amount a single project can receive. Project caps in five states vary based on the project type. For example, North Carolina caps its rebates at \$250,000 per commercial, \$7 million per feature-length film, and \$12 million per television season.

Incentive provisions used in other states may also limit program costs. For example, California's incentive excludes all cast and "above-the-line" crew (e.g., directors, producers), so productions do not receive the credit for the highest paid workers. Other states may exclude nonresident wages or require a minimum number or percentage of filming days in-state. These provisions are discussed in [Appendix C](#).

RECOMMENDATION

1. To reduce the fiscal risk to the state, the General Assembly should consider options for capping the film tax credit. Alternatively, the General Assembly could consider other provisions to reduce the cost of the credit.

GDEcD Response: GDEcD stated that Georgia is a competitor in the international market, not just the domestic market, and that Georgia is "not an outlier in the shape and size of its production incentive program compared to its competition." It noted the following jurisdictions:

- New York – Refundable credit of 30% that excludes actor, producer, and director salaries. Rolling cap of \$420 million per year, with \$837 million committed in 2018.
- Ontario – Refundable credit of 21.5% on goods and services, 35% on labor that excludes nonresident actor, producer, and director salaries. No annual cap, with \$427 million committed by province and \$165 million by federal government in 2018.
- British Columbia – Refundable credit of 41% on labor that excludes nonresident actor, producer, and director salaries. No annual cap, with \$607 million committed by province and \$244 million by federal government in 2018.
- United Kingdom – Refundable credit of 25% that includes actor, producer, and director salaries. No annual cap, with \$1.08 billion committed in 2018.

Auditor's Response: Regarding Georgia's competing jurisdictions, we would note that three of the four identified by GDEcD restrict the type of labor income eligible for the credit. Implementing such restrictions serves a similar function to a cap by excluding some of the most highly paid individuals, which reduces the credit's cost. The fourth, the United Kingdom, provides a lower credit rate than Georgia. While GDEcD indicated that the United Kingdom committed nearly \$1.1 billion to the tax credit in 2018, it should be noted that its economy was 4.8 times larger than Georgia's in 2018.

GDEcD Response: GDEcD noted that any type of cap (per project or annual cap) would drive down investment and that the “General Assembly should understand and appreciate the risks associated with imposing caps.” Per project caps would limit higher-budgeted films and television series, which GDEcD stated are more economically beneficial to the state (higher wages, more local purchases, longer length of productions). Annual caps can create a “feast or famine market for productions at the beginning and end of each year,” which could result in “over permitting and filming within high demand neighborhoods, and cast, crew, vendor, and sound stage shortages. This would likely be followed (once the cap had been reached) by high levels of unemployment for out-of-work cast and crew and would impact third-party vendors who rely heavily on the film industry as customers.

“GDEcD states that it is in large part the lack of a cap that has led to the tremendous success of the Film Tax Credit. The General Assembly’s continued support of the film tax credit has created a predictable marketplace where individuals and institutions alike have made investments. No market has seen the kind of bricks and mortar investment in the film industry that Georgia has seen, and Georgia’s stability in the film industry has helped to create it.”

Auditor’s Response: Regarding the implementation of caps, the General Assembly should consider the input of GDEcD, industry officials, and other relevant experts to determine the most beneficial method for implementation to minimize drawbacks. As noted on page 34, a cap, or other alternative, can involve selected criteria to identify projects with the best return to the state instead of using a first-come, first-serve approach.

Regarding a cap’s impact on industry investment, as we noted on page 8, the lack of a cap contributes to the generosity of the credit, and we agree that the credit’s generosity has lured production activity to the state. However, this economic activity must be weighed against the cost of the credit.

Finding 6: Limited information has been available to decision makers and the general public regarding the film tax credit.

The state has awarded billions of dollars in film tax credits, but it has not evaluated the program and does not permit disclosure of information on credit recipients. As a result, decision makers and the general public have not had sufficient, accurate information to assess program costs and benefits.

Evaluation

Georgia has no process in place for evaluating the film tax credit or other incentives. The state does not require economic development incentives be evaluated prior to or after relevant legislation is passed.²¹ Prior to voting on such incentives, legislators may receive economic impact information from industry lobbyists or other incentive beneficiaries, but they rarely receive such information from objective sources.

²¹ Legislators may request a fiscal note that estimates the legislation’s cost to the state. However, a fiscal note does not include an evaluation of the legislation’s effectiveness in attracting jobs, investment, or additional tax revenue.

Without objective information, decision makers cannot determine how well an incentive works for the state's economy and budget.

Best practices for incentive evaluation, from organizations such as Pew Charitable Trusts and the Council for State Governments, include the following:

- **Conducted by an independent, objective entity** – Objective information should serve as the basis for changes to incentive programs. To ensure unbiased results, the evaluating entity should not be paid by the industry receiving the incentive and should be independent from the agency responsible for promoting the program. To ensure transparency, evaluators should disclose their methodology and their model's assumptions.

As shown in [Appendix F](#), film incentive studies in other states generally showed a higher return on investment when the study was conducted by the film industry than when it was conducted by an independent state audit entity.

Prior to our study, we were unable to identify any published evaluations of the state's film tax credit conducted by an independent third party.²² We identified one study published in 2011 funded by the Motion Picture Association (MPA). Because the report did not include clear descriptions of the methodology used, we were unable to validate its results.

- **Determines whether the incentive is meeting its goals** – Incentives should be carefully designed to meet specific goals, and evaluations should assess incentive results against these goals. Evaluations may also identify opportunities to improve incentives and meet the state's goals in a more efficient and effective manner.

The film tax credit's statute does not specify program goals, such as increasing the number of industry jobs or raising industry workers' wages. Therefore, we were unable to evaluate whether the incentive met its goals. Changes such as those discussed in the finding on page 30 could improve the credit's efficiency and lead to a better return for the state.

- **Considers fiscal impact** – Incentives that increase industry spending will have an economic impact; however, an evaluation should also consider the costs of generating that economic activity. Evaluations should consider the costs to the state, as well as the increased revenue to the state resulting from the incentivized economic activity (i.e., return on investment).

Our analysis considered costs to the state, as well as increased revenue to the state and local governments resulting from the increased economic activity. The fiscal analysis is discussed on page 20.

- **Considers opportunity costs** – Incentive evaluations should consider opportunity costs. Since any use of state dollars will have some economic benefits, an incentive evaluation should include a comparison to policy alternatives, including whether another incentive might have a better return on investment.

Opportunity cost – the value of the best alternative not chosen

²² In July 2019, after we began our study, J.C. Bradbury at Kennesaw State University published a study entitled *Film Tax Credits and the Economic Impact of the Film Industry on Georgia's Economy*.

To allow for reliable comparisons, a standard framework should be used to collect information consistently. Incentive comparisons may include measures such as number of new jobs created, cost per job (incentive paid or revenue lost per job created), and the state's return on investment. To calculate these measures, the state would need to collect adequate, reliable data that can be shared with the evaluating entity.

After consultation with GDEcD, we were unable to identify a state economic incentive program for comparative analysis. Other programs we considered were significantly smaller and were intended to incentivize investment in permanent facilities and jobs. Other notable projects that received state incentives are discussed in the box on the following page.

- **Occurs regularly** – Incentives should be evaluated on a regular basis to consider changes in the economy, state budget, and incentive usage. Statutory expiration dates, or “sunsets,” are one option to encourage decision makers to review evaluation findings and take action as needed.

Transparency

Incentives should be transparent so that benefits to taxpayers and costs to the state are clear. Georgia's film incentive is less transparent than other economic development programs and other states' film incentive programs. Because Georgia's film incentive is a tax credit, no information is provided to the public regarding the companies that receive the credit. State income tax laws prohibit DOR and GDEcD from sharing company names, production names, or incentive amounts.

There are several reasons that the film tax credit merits an exception to this confidentiality:

- **Size** – The film tax credit is the state's largest economic development program and provides a generous credit of up to 30% of a company's reported expenditures. In 2016, the average project credit was \$1.5 million, a figure which does not include credits earned in previous or subsequent years. Movies averaged \$5 million in credits, and television shows averaged \$1.6 million in credits. In total, \$667 million in film tax credits were generated in 2016. From 2013 to 2017, more than \$3 billion in film tax credits were granted, with amounts increasing each year.
- **Purpose** – Many Georgia economic development initiatives are subject to public disclosure. State law requires GDEcD to disclose award information for companies receiving incentive funding from OneGeorgia or the Regional Economic Business Assistance program. Company name, location, award date, and award amount are posted online if the company's expenditure are more than \$25 million or if the company will hire at least 50 employees. According to DOR's credit data, approximately 50 production companies spent \$25 million or more between 2015 and 2017 alone, with applicable film tax credits totaling \$1.4 billion.
- **Balance** – Greater transparency would allow decision makers to consider both the costs and benefits of the incentive program. With a company's permission, GDEcD may release information regarding project expenditures

Comparison to Other Large Economic Development Projects

We intended to compare the film tax credit with other economic development programs in terms of resulting jobs and investment but were unable to identify any other state economic development program similar in size. Instead, GDEcD identified significant economic development projects that had received incentives within the last several years, and we have summarized the resulting state incentives and expected jobs and investment. The state incentives covered various costs for site acquisition, taxes, and worker training in return for construction of new facilities and creation of new jobs.

- **Project 1** – The manufacturer agreed to invest at least \$160 million in a factory. It also agreed to provide a minimum of 1,300 new full-time jobs within eight years, with the number of jobs expected to grow over time. In return, the state agreed to provide approximately \$85.5 million in incentives.
- **Project 2** – The manufacturer agreed to invest at least \$1.6 billion in a factory. It also agreed to provide a minimum of 2,000 new full-time jobs within eight years, with the number of jobs expected to grow over time. In return, the state agreed to provide approximately \$112.0 million in incentives.

By comparison, the 2016 film tax credit totaled \$667 million, leading to approximately \$2.2 billion in direct spending by production companies and 11,121 jobs in 2016.

While there are key differences between the projects above and the film industry, the projects serve as illustrations of the level of investment that the state makes in exchange for jobs and investment. Those differences are discussed below.

- **Investment** – The projects above involve large assets such as factories and equipment. However, the investment will not occur in a single year, with the projects requiring multiple years of construction and equipment purchases. The investment (direct spending) by film companies occurs in a single year but there is generally no remaining asset. The next production company project can be in another state or country.
- **Jobs** – The jobs for the projects above are full-time, permanent, and virtually all are likely to be held by Georgia residents. For example, the new facilities job tax credit is limited to new full-time jobs, with no predetermined end date, that must be maintained for at least five years. The film tax credit-related jobs discussed in the finding beginning on page 12 include full-time, part-time, and temporary positions. A portion of the jobs in the film industry are held by nonresidents, and a more significant portion of labor income is for nonresidents.
- **Incentive length** – The incentives above include significant upfront amounts to support items such as land purchases and improvements, but other state incentives occur over a longer period (e.g., QuickStart workforce training, job and investment tax credits). The jobs and investment must continue for these incentives to be realized. The film tax credit is granted each year for related projects, and companies meet all spending requirements in that year. While granted in a single year, the credits may be claimed by taxpayers (used against a tax liability) over multiple years.

Note: The amounts associated with the two projects are estimates based on signed memoranda of understanding; actual figures may have been higher or lower. Local incentives are not included for these projects or film tax credit projects.

or jobs. However, this discussion of economic benefits is not balanced by disclosure of the costs—the credit amount the company received. Additionally, as noted on page 24, the project information GDEcD has may not be accurate.

Controversial projects have received the credit.

- **Types of projects subsidized** – The lack of transparency prevents decision makers and the general public from assessing whether the state wishes to subsidize the content of credit-receiving projects. The credit has been given to projects that depict the state in a negative light, could be considered offensive or obscene, or otherwise include material that the state may not wish to incentivize with state tax expenditures. Decision makers may prefer GDEcD not consider project content as part of credit eligibility decisions, but

without knowing the type of content involved, an informed debate of this issue cannot take place.

While the full disclosure of a company's tax information could provide competitors with sensitive information, this is not the case with a limited disclosure of film tax credit information. Reporting a project's credit amount would disclose only the company's eligible spending in Georgia. It would not disclose the total budget (an amount that is often found in media reports), the amount paid to a particular employee, or the amount of taxes owed by the company.

Other states with film incentives typically disclose information such as company name, production name, and incentive amount. Of the 31 other states with a film tax credit or rebate, 23 states (74%) disclose company name and/or production name, and 20 states (65%) disclose incentive amounts received by each production. For example, New York publishes quarterly film incentive reports with company names, production names, and incentive amounts, as well as spending, jobs, and wages paid.

RECOMMENDATION

1. The General Assembly should consider requiring periodic, objective evaluations of the film tax credit program.
2. The General Assembly should consider amending state law to require DOR to disclose the production company, production name, and credit amount for each project receiving the credit.

GDEcD Response: Regarding periodic, objective evaluations of the credit, the agency stated that it “would welcome thorough, unbiased evaluations of Georgia's film and interactive entertainment industries. For a state that has driven an increase in industry investment from less than \$100M in 2007 to \$2.9B in FY19, there should be off model adjustments made from IMPLAN to better evaluate the clustering impacts of creative industries. Using a one size fits all approach for an industry within Georgia that has seen unprecedented growth likely results in an underreporting of the industry's impact on Georgia's economy. The scale and sophistication of the relationship between the state and this industry merit further consideration to provide a coherent set of conclusions to inform state officials.”

Auditor's Response: GDEcD's implication that our analysis was neither thorough nor unbiased is without merit. A primary role of DOAA is to provide independent, objective information to the state's decision makers.

GDEcD argues “a one size fits all approach ... likely results in an underreporting” of the impact. Our approach was not “one size fits all” but was tailored to the actual projects receiving the credit. We used the expenditures companies reported to DOR to identify spending amounts and patterns specific to Georgia productions. Regarding underreporting the impact, our study likely overestimates the credit's impact because we assumed zero production activity would have occurred without the credit. Additionally, we shared our methodology with GDEcD and its film study consultant, who stated the study was “very comprehensive,” using a “fair methodology” and better data than what was available to him. Only after the methodology was executed and the results were shared did GDEcD assert that DOAA was not a neutral, unbiased party. Conversely, decisions made to avoid using actual

production company spending data in GDEcD's own study seem designed to overestimate the credit's impact.

***GDEcD Response:** Regarding the transparency of the credit, GDEcD noted that while transparency is important, "the General Assembly has historically chosen to keep taxpayer information confidential and out of the public view. This includes not disclosing what companies pursue the film tax credit and any credit amounts they may earn through this program." It noted that REBA and EDGE are grant programs, which "provide financial grants to public entities to be used to ultimately benefit an economic prospect in return for that prospect contractually committing to certain job and investment requirements. If the prospect does not meet a certain level of job and investment creation, it may be required to repay the grant amount to the state." It further noted that while transparency can be used "to evaluate the efficiency and impact that a program has on the state budget and economy... this evaluation can likely be accomplished by using currently available aggregated tax data on a particular tax program."*

Appendix A: Table of Recommendations

Finding 1: Projects receiving the film tax credit in 2016 had an estimated impact of \$4.6 billion on the state's economy before considering the economic cost of the credit. We estimated the impact at \$2.8 billion once those costs are considered. (p. 12)
No recommendations
Finding 2: Tax revenue generated as a result of the economic activity inspired by the film tax credit offsets only a small portion of the credit. (p. 20)
No recommendations
Finding 3: The impact of the film tax credit on the state's economy has been significantly overstated, leaving decision makers without accurate information necessary to assess the credit. (p. 23)
1. To ensure decision makers have accurate information, GDEcD should use a reasonable multiplier to estimate economic impact.
2. To ensure that reported jobs are related to the film tax credit, GDEcD should avoid including jobs unrelated to production and discuss direct jobs separately from indirect and induced jobs.
3. To ensure decision makers have information on Georgia residents, GDEcD should collect information on jobs held by Georgia residents and discuss resident and nonresident jobs separately.
Finding 4: A significant portion of the credit's benefits accrue to other states. (p. 28)
4. The General Assembly should consider changing the credit's provisions to reduce the credits allowed for out-of-state workers and service providers.
Finding 5: Most states with a film incentive have program caps to limit the fiscal risk to the state. (p. 32)
5. To reduce the fiscal risk to the state, the General Assembly should consider options for capping the film tax credit. Alternatively, the General Assembly could consider other provisions to reduce the cost of the credit.
Finding 6: Limited information has been available to decision makers and the general public regarding the film tax credit. (p. 35)
6. The General Assembly should consider requiring periodic, objective evaluations of the film tax credit program.
7. The General Assembly should consider amending state law to require DOR to disclose the production company, production name, and credit amount for each project receiving the credit.

Appendix B: Objectives, Scope, and Methodology

Objectives

This report examines the impact of the film tax credit. Specifically, our audit set out to determine the following:

1. How effective is the film tax credit as a tax incentive and economic development program?

In early January 2020, we released an additional report, which addressed the administration of the film tax credit by GDEcD and DOR.

Scope

This audit generally covered film tax credit-related activity that occurred during tax year 2016, with consideration of earlier or later periods when relevant. Information used in this report was obtained by reviewing relevant laws, rules, and regulations; interviewing industry representatives and reading industry publications, including best practices for economic development incentives; interviewing agency officials and staff from GDEcD and DOR; analyzing certification data and reviewing documents from GDEcD; analyzing credit data, reporting, tax documents, and audit documentation from DOR; and reviewing other states' film incentive websites, laws, rules, and regulations.

We obtained an export of film tax credit records from DOR's Business Credit Manager (BCM). The data spanned tax years 2014-2018; however, we determined that tax year 2016 was the only year sufficiently complete to use for extensive analysis. Even 2016 data is not considered final, as companies can submit an amended tax return for up to three years after the due date, and credits could be adjusted due to audit. As a result, additional credits could be taken, and amounts could be adjusted by the company or by DOR auditors. Additionally, we identified some data missing from the BCM; these were projects that had undergone voluntary audits by DOR, but the companies had not yet requested BCM credit records. We added these projects to the BCM data for 2016 and 2017 to obtain an estimate closer to the final credit numbers. The additional projects included three from 2016 (\$3.4 million in credits) and 11 from 2017 (\$182.6 million in credits).

We assessed the controls over data used for this audit and determined that the data used were sufficiently reliable for our analyses. Although the data were subject to various sources of error, we believe it represents a credible estimate given the limitations of the data.

Due to legal restrictions, information related to income tax data is prohibited from public disclosure. As a result, certain confidential or sensitive information has been omitted from the report.

Government auditing standards require that we also report the scope of our work on internal control that is significant within the context of the audit objectives. While the overall objective did not specifically address internal controls, we did review internal controls related to GDEcD's reporting on the impact of the credit. Deficiencies related to GDEcD's reporting are discussed on page 23.

Methodology

To estimate the impact of the film tax credit on the Georgia economy, we conducted an impact analysis with the Center for Business and Economic Research (CBER) at the University of West Georgia. For the analysis, CBER used IMPLAN, a widely used economic modeling system. The results of CBER's study, entitled *The Economic and Fiscal Impact of the Entertainment Tax Credit Program in Georgia*, are presented in the first two findings on pages 12 through 22.

Due to confidentiality concerns regarding income tax data, we provided CBER with aggregated spending information (not specific taxpayer information) to use as model inputs, based on our analysis of data from DOR and GDEcD. CBER then performed the economic and fiscal analyses. They also provided their expertise and advice throughout the process.

To identify and address potential concerns, we reviewed our methodology with GDEcD and with a consultant hired by GDEcD. Neither raised significant concerns regarding the methodology. Similarly, we requested that economists from the Georgia State University Fiscal Research Center and the University of Georgia Carl Vinson Institute of Government review the study, including the methodology and results. We considered and modified content appropriately to address the comments and concerns of each entity.

For all aspects of the analysis – production companies, studio construction, and film tourism, we assumed all economic activity resulted from the film tax credit, meaning none would have occurred without it. We did identify projects that likely would have filmed in the state without the credit, but the extent of this issue is unknown. If some of the economic activity would have occurred in the state without the credit, the credit's economic impact would be lower than estimated in this report.

Production Companies

To identify 2016 production spending, we used DOR's BCM, described on page 42. Within the BCM data, we separated projects by type to address potential differences in spending.

Film

Together with CBER, we modeled the impact of film production in IMPLAN using a method known as analysis by parts. This is a standard technique used when no existing IMPLAN sector adequately represents the applicable industry. Our model uses companies' spending behavior derived from detailed labor and nonlabor spending by productions receiving the credit in 2016.

Data and Adjustments

We concluded that using IMPLAN's existing motion picture and video industries sector (sector 423) would not be the most accurate method for evaluating the credit's impact for film production. IMPLAN's sector 423 includes some industries outside the scope of our analysis, such as movie theaters, as well as other industries and companies that did not receive the credit. To determine whether this concern was warranted, CBER ran a typical analysis (called an industry change) in IMPLAN using this sector and a change to direct labor income based on data from production payrolls. The resulting direct effects reported by IMPLAN greatly overestimated the output, which did not align with the spending data we obtained from DOR. We concluded that using

detailed spending data reported by production companies on credit-receiving projects would provide more accurate results than IMPLAN sector 423.

We used documentation from DOR to evaluate company spending. For each group discussed below, we created a spending pattern for the nonlabor spending and a breakdown of labor expenses between residents and nonresidents. Spending patterns show the allocation of spending to the industries that supplied goods and services for production (e.g., rental and leasing, accommodation, and food services), which is then modeled in IMPLAN to provide indirect effects and a portion of the induced effects. Production company spending on labor (direct labor income) is modeled in IMPLAN to provide the remainder of the induced effects.

- **Movies** – For movies, we added project budget information from GDEcD’s certification list to DOR’s BCM credit data. We believed there could be important spending pattern differences between high- and low-budget movies, so we split movie projects into quartiles based on total budget (not in-state spending). Using quartiles ensures better coverage and removes the risk of high-budget movies dominating spending behavior. We drew a quota sample of 10 projects in each quartile. The samples included all DOR-audited movies in the quartile and a random selection of non-audited movies to complete the quota.
- **Television** – We selected 18 audited television shows, covering a variety of show types (e.g., series, reality shows). For shows that had multiple seasons produced in 2016, we only included one season in the sample to avoid over-representing its spending behavior. We also reviewed unaudited television projects selected for a file review for the administrative objectives included in our film tax credit administration report (18-03A).
- **Other** – For other projects, such as commercials and music videos, no 2016 projects were audited. As a result, we randomly selected other projects from the BCM data, added the two largest projects, and reviewed the documentation submitted with company tax returns. However, the tax return documents did not provide sufficient detail to create a spending pattern. We decided to apply the television spending pattern to the other projects, with GDEcD’s agreement. These other projects represent less than 2% of the total tax credit.

To build the necessary spending patterns, we used projects’ general ledgers that companies provided for DOR audits, as these provided the most detailed spending data. Each ledger contains a list of all transactions associated with the project, including the vendor/employee name, a description of the item/service, and the expenditure amount. As discussed above, we also reviewed documentation submitted with company tax returns for non-audited productions in each group. However, these proved unreliable due to the limited detail and frequent failure to submit this documentation.

For the audited projects, we removed ineligible non-labor expenditures, which were primarily from out-of-state vendors. Auditors typically disallowed 1-2% of submitted expenditures as ineligible. We then coded the remaining nonlabor expenditures with the relevant industry code (NAICS) based on the vendor name, using the Georgia

Department of Labor (DOL)²³ to help identify the appropriate codes. We researched and coded vendors DOL could not identify. Spending for unclassified vendors was allocated to coded industries. We also identified industry codes for transactions where the vendor was listed as an individual, a credit card, or a blank, by reviewing the transaction details. We aggregated the spending data by combining the spending by industry code for each project and then summing spending by industry code across projects separately for each movie quartile and for television. We then used this data to calculate the percentages of total spending by industry for each group. These percentages provide the nonlabor spending patterns.

For labor spending, we reviewed payroll reports for audited projects to identify compensation amounts for both residents and nonresidents. We used these amounts to estimate the percentage of total production costs for labor and the percentages of labor costs for residents and nonresidents. The relevant percentages were applied to projects in the movie quartiles and to television shows. Since no audited information was available for other productions, we assumed 100% of their labor spending went to residents.

Modeling Approach

We provided the aggregated labor and nonlabor spending data to CBER, who performed the necessary analysis-by-parts in IMPLAN for each project group. The analysis-by-parts provided the indirect and induced effects. According to standard practice, CBER excluded nonresident compensation from the labor income used to generate induced effects. Production companies are typically required by contract to pay for nonresident workers' living expenses (e.g., hotel, meals, transportation), which are included in the production company spending. As a result, nonresidents are unlikely to spend a significant portion of their earnings within the state. In a paper²⁴ commissioned by the Motion Picture Association, consultant Ernst & Young agreed that labor income "can be limited to the compensation paid to in-state residents" for a film incentive impact analysis.

We then worked with CBER to quantify the direct effects. Because IMPLAN's film sector 423 did not adequately represent the productions receiving the credit, we worked with CBER to identify the best sources for the direct effects. We used known values for direct output, labor income, and employment.

- ***Direct Output*** – The direct output is the total value of production companies' spending in Georgia from the BCM data. This amount was reported to DOR by the production companies receiving the credit. This amount was spent for labor income (discussed in the following bullet) and with vendors (nonlabor spending).
- ***Direct Labor Income*** – The direct labor income (workers' wages and other compensation) was identified during our review of payroll reports, as discussed above. This amount includes compensation for both residents and nonresidents. Because nonresident labor income has a minimal effect on the state's economy, some analyses may exclude it from the direct effect. (The

²³ With DOR's approval, we provided an aggregated list of vendors paid by production companies. No information was provided that would indicate the associated production or the amount paid to the vendor.

²⁴ *Evaluating the Effectiveness of State Film Tax Credit Programs: Issues that Need to Be Considered*, Ernst & Young, 2012

Fiscal Research Center economists stated that it would not have included it in the model.) Because the compensation was earned in the state, IMPLAN recommends its inclusion in direct effects.

- ***Direct Employment*** – The direct employment is total 2016 Georgia industry employment from the Quarterly Census of Employment and Wages (QCEW) survey of the U.S. Department of Labor, Bureau of Labor Statistics. When CBER entered known values for direct output and labor income into IMPLAN sector 423, the direct employment result was low in relation to the known industry compensation per employee. Consequently, we decided to use QCEW data for the motion picture and video production industry instead. QCEW provides a count of jobs by employer, not a count of workers in the industry. It does not include individuals who are self-employed (contract labor) or non-profit workers. However, it does include workers on productions that are not eligible for the credit (e.g., local news programs). Additionally, nonresidents and multi-job holders may be included in the counts.

Interactive Entertainment

Together with CBER, we modeled the impact of interactive entertainment production in IMPLAN using a standard industry change analysis.

Data and Adjustments

As with film, we used DOR's BCM to determine total spending on interactive entertainment projects in 2016. We also reviewed expenditure information submitted to DOR with company tax returns. No residency information was included in this documentation. As a result, we assumed all workers were Georgia residents. During our review of the BCM data, we noted that some firms had reached the company credit cap and reported additional amounts spent on their projects. This additional spending was included in the impact analysis, although it was not used toward the credit.

Modeling Approach

CBER entered the total 2016 interactive entertainment expenditure as direct output and entered compensation as direct labor income in IMPLAN sector 451 (custom computer programming services) and conducted a standard industry change analysis. Therefore, IMPLAN provided direct employment, as well as all indirect and induced effects.

Associated Industries

To identify 2016 spending on studio construction and film tourism, we relied on documents provided by GDEcD and other sources.

Studio Construction

Together with CBER, we modeled the impact of studio construction in IMPLAN using a standard industry change analysis.

Data and Adjustments

We estimated 2016 total spending on studio construction and renovation using a list of stages and warehouses provided by GDECD. To identify those studios with construction costs during 2016, we removed those locations with productions before 2016. We later added a studio we identified with construction costs from an expansion. We also removed non-studios such as office spaces, reasoning they were

not constructed specifically for film. We conducted internet research to further narrow down the list and ultimately identified five studios with construction costs in 2016. We shared the list with GDEcD Film Office staff, who indicated they were unable to identify any additional studios with 2016 construction costs.

To identify 2016 construction costs, we reviewed news articles, county tax assessor websites, and local government permitting websites to estimate construction beginning and end dates as well as costs. Based on the dates and amounts identified, we calculated a per-day cost and a total 2016 cost for construction. As an alternative means of estimating costs, CBER obtained the cost per square foot from a local development authority for one of the studios identified. We applied this amount to the square footage for each studio to obtain the total construction costs, then calculated a per-day cost and a total 2016 cost for construction. The official source for this cost per square foot increases its reliability, although there were indications that the studio's costs were higher than the others. Both approaches produced similar estimates (within 7%), so we averaged the two and used the result as the IMPLAN input.

Modeling Approach

CBER entered the total 2016 studio construction expenditure as a direct output change in the appropriate IMPLAN construction sector and conducted a standard industry change analysis. Therefore, IMPLAN provided direct employment and direct labor income, as well as all indirect and induced effects.

Film Tourism

As noted on page 16, we estimated the level of 2016 film tourism in Georgia, not the tourism generated by projects receiving the credit in 2016. Film tourism analysis is typically anecdotal, based on the effects of individual movies and television shows and potentially occurring years after production. As a result, it is currently not possible to estimate film tourism generated by projects produced in 2016. Instead we estimated the number of tourists visiting the state in 2016 that were at least *partially* motivated by film and that participated in touring and sight-seeing activities.

Data and Adjustments

GDEcD's Tourism Division staff supplied data on 2016 Georgia visitors and activities in which the visitors participated. The data separated visitors into two groups, domestic (U.S.) and international,²⁵ which we maintained due to the spending differences between the groups. GDEcD research provided visitor totals for each group.

We made the following adjustments to identify the appropriate group of visitors:

- *Leisure travelers* – By definition, film-induced visitors are motivated by film, not by business; therefore, we excluded travelers visiting for business purposes. To identify those traveling for leisure or vacation, we used leisure/vacation visitor percentages from GDEcD research and Statistics Canada (Canada's federal statistical office) to adjust the domestic and foreign visitor counts.

²⁵ International visitor counts exclude those from Mexico. Limited information was available regarding Mexican visitors traveling by air, but Georgia-specific visitation and spending information was not available. These visitors comprised a small portion (3%) of the overall international visitor count.

- *Nonresidents* – Nonresident visitors provide new dollars to the state that otherwise would not have been spent here, so we reduced the count of domestic, leisure visitors to include only nonresidents using a percentage from the GDEcD research. Foreign visitors are nonresidents by definition and require no such adjustment. While some residents may participate in film-related activities such as movie tours, it is likely these activities are substitutes for other in-state spending and would not represent new dollars to the state. It is possible some residents may remain in-state to participate in these activities instead of visiting other states. However, we believe this number is small in relation to the total number of residents included in the tourism data.
- *Touring and sightseeing participants* – We evaluated GDEcD research to identify those activities in which film-motivated visitors would likely participate. Of the available activity categories in GDEcD’s research, touring and sightseeing appeared to be the most applicable. Other activities, such as visiting friends/relatives or shopping, appeared unrelated to film, and because survey respondents could choose multiple activities, we were concerned about double counting. We used the touring and sightseeing percentage from GDEcD’s research to reduce the domestic, nonresident, leisure visitor total to this subgroup. GDEcD’s foreign visitor research provided no equivalent activity breakdown, so the foreign visitor data was not reduced in the same way. The overseas visitor count is likely generous as a result.
- *Travel motivation* – Because touring and sightseeing attractions can generate interest without being featured in film, we looked for research regarding travel motivations. CBER located 2018 national research conducted by Destination Analysts that found 7.3% of American travelers considered film as a factor when selecting their travel destination (The State of the American Traveler, Destinations Edition). Because respondents could choose multiple answers, the 7.3% is generous. We reduced the nonresident domestic touring and sightseeing visitor count to a level corresponding to 7.3%. We were unable to identify a study on motivations for overseas visitors, so we applied 7.3% to the total overseas vacation visitors as well.

We used GDEcD research to estimate per-visitor spending. The research for domestic visitors included average daily spending for nonresident, leisure visitors and average nights stayed in the state. We multiplied these amounts by the number of film-induced, domestic visitors to obtain total spending for domestic visitors. However, GDEcD data was not as detailed for foreign visitors. To address this issue, we estimated the daily spending of overseas visitors to the U.S. for personal travel, including vacation, using data from the U.S. Department of Commerce, National Travel and Tourism Office (NTTO) and Statistics Canada. This amount was multiplied by the number of overseas leisure visitors to Georgia and the number of nights stayed in the state from GDEcD research. Canadian leisure visitors were multiplied by the same daily spend amount and the number of days stayed in the state as reported by Statistics Canada. We did not use Statistics Canada’s estimate of daily Canadian spending in Georgia, because it was from a small sample and was roughly half the amount of domestic visitor daily spending, which appeared to be unreasonably low.

As noted on page 17, we also searched for studies regarding film tourism in Georgia and identified a 2011 study funded by the Motion Picture Association (MPA). The study did not disclose the methodology used to generate its spending estimates, so we were unable to validate it. However, we did evaluate the tourism impact using the percentage of tourism spending the report attributed to film. The study reports 2010 film induced tourism spending, which we divided by 2010 total Georgia visitor spending from the U.S. Travel Association. According to the MPA study results, approximately 0.78% of total 2010 visitor spending was film induced. We applied this percentage to 2016's total tourism spending to calculate direct spending for film tourism.

Modeling Approach

Film-induced visitor spending, both domestic and foreign, was modeled in IMPLAN as standard industry changes to sales (i.e., direct output) in tourism-related industries (e.g., transportation, food services, and accommodation). The allocation of expenditures to each tourism industry was handled according to spending patterns in GDEcD-provided research from 2015²⁶ (international) and 2016 (domestic). The results were aggregated.

Forgone Government Spending

We estimated the impact of forgone government spending using the 2016 credit total increased by the amount of forgone federal matching funds for Medicaid spending.

Data and Adjustments

For modeling purposes, we assumed that the 2016 cost of the credit was equivalent to the cost of certified credits for 2016 projects as reported by DOR. While the credit may be redeemed over multiple years, DOR currently does not have sufficient data to properly estimate the usage pattern. As a result, we assumed that all credits were used in 2016 or shortly thereafter. If we had assumed equal usage over a six-year period using the state's current five-year bond rate as the discount rate, the difference in the credit's cost would be approximately \$22 million, reducing the credit's cost by approximately 3%.

By offering the tax credit, the state has less income tax revenue to spend on other policy areas. We considered the cost of the credit in forgone government spending. We based the spending that would have occurred on the primary policy choices exhibited by the 2016 budget. Together, education and healthcare comprised 72.8% of the state's budget in fiscal year 2016. CBER used the shares for these sectors provided in the Georgia Budget Primer published by the Georgia Budget and Policy Institute (GBPI). The remaining expenditure categories do not have a direct matching sector in IMPLAN that would allow for modeling, so CBER allocated all spending to the two largest categories. We applied the applicable share of state spending on Medicaid to the amount of forgone spending to determine the forgone federal matching funds amount. While the state may earn federal matching funds in other policy areas as well, the Medicaid matching funds had a significant effect on the forgone government revenue in this scenario. As a result, this matching amount was added to the healthcare spending total.

²⁶ GDEcD's international visitor research for 2015 provided visitor spending by industry, while its 2016 research did not. We assumed the 2016 spending behavior did not change significantly from 2015 to 2016.

It should be noted that the economic impact associated with forgone government spending may not have been significantly different if we had been able to allocate the additional funds to other government spending categories (e.g., corrections, judicial, environmental protection). All would result in increased in-state spending that would affect the economy. Depending on the activity funded, the effects would likely be slightly higher or lower than the education and healthcare categories included in the model.

Modeling approach

CBER used the amount of forgone state government spending for healthcare, including federal Medicaid matching funds, and education as changes to direct output for healthcare and education in IMPLAN. CBER aggregated the results of these industry changes to determine the overall impact.

Fiscal Impact

IMPLAN generated a tax report as a standard output for each of the scenarios analyzed. The tax report showed the combined state and local government revenue generated by the economic activity, separated by revenue type (e.g., individual income tax, sales tax). CBER used the information in these reports and allocated the revenue to the state and to local governments. Each revenue type was allocated according to proportions developed from Georgia statute and published information from DOR. As part of the analysis for film, CBER added the income tax payments due from nonresident production labor. Once revenue was allocated for each scenario, CBER aggregated the data to determine the overall fiscal impact.

We also considered local film incentives but did not include them in the analysis. We found that local incentives caused an insignificant reduction in local revenue (Savannah) or were recently implemented and not available in 2016 (Columbus). Additionally, we did not consider local incentives, such as property tax abatements, in our analysis of studio construction because we did not have sufficient information on all projects.

Opportunity Cost

As noted on pages 36 and 38 of the report, we attempted to identify and model the opportunity cost of the credit. We considered additional funding for other economic incentive programs. However, we were unable to identify a state economic incentive program for comparative analysis. Other programs we considered were significantly smaller and were intended to incentivize investment in permanent facilities and jobs. CBER considered government spending in other feasible alternatives, such as investment in certain sectors. However, these alternatives involve direct government spending, which is not equivalent to the film tax credit, an incentive intended to encourage private sector investment. Additionally, we had no basis for selecting a particular sector for additional government purchases that could be made for the primary purpose of economic impact and may not reflect current government policy priorities.

Other Methodology

To support the objectives, we reviewed the film office websites of 31 other states with film incentives for information on their type, size, restrictions, and administration. The states with incentives were identified through industry publications and internet searches. When information was not available through a film office website, we reviewed the state laws, rules, and regulations. We also interviewed staff from 26 film

offices and one state audit agency for information not located through available sources.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix C: Other State Incentives

STATE	INCENTIVE TYPE	LEVEL (%)	MINIMUM SPEND	PROJECT CAP	AGGREGATE CAP	COMPENSATION CAP	MINIMUM FILMING DAYS
Alabama	Rebate/Grant	<ul style="list-style-type: none"> 25% on production expenditures & 35% of payroll to residents 	<ul style="list-style-type: none"> \$50K-\$500K Soundtracks: \$50K Music Videos: \$50K Other Productions: \$500K 	Qualifying spending is capped: <ul style="list-style-type: none"> Soundtracks: \$300K Music Videos: \$200K All Other: \$20M Cap levels depend on the expenditure mix	\$20M	<ul style="list-style-type: none"> BTL crew: \$500K ATL crew: \$1M Includes non-residents and loan-outs. 	None
Arkansas	Rebate/Grant	<ul style="list-style-type: none"> 20% on qualified expenses +10% for full-time BTL residents 	\$200K	None	Based on fund amount	\$500K	None
California	Tax Credit	20%-25%: <ul style="list-style-type: none"> 20% on qualified expenses +5% for filming outside L.A. zone for non-independent projects (excludes relocating TV series in their 1st season) 	\$500K-\$1M: <ul style="list-style-type: none"> \$500K for miniseries and movie of the week \$1M for feature films, TV series, TV pilots, & indie films 	<ul style="list-style-type: none"> \$100M \$105M with uplifts for non-independent projects Independent proj. expense capped @ \$10M 	\$330M/FY	None (Only BTL crew qualifies)	75% or spend a minimum of 75% budget in state
Colorado	Rebate/Grant	20% on qualified expenses	\$100K-\$1M: <ul style="list-style-type: none"> In-state companies & residents: \$100K Out-of-state companies & nonresidents: \$1M Commercials & video games: \$250K 	None	<ul style="list-style-type: none"> Currently \$750K Based on legislature allocation & amount previously encumbered by recipients 	\$1M/employee or contractor (as long as state income taxes withheld)	None
Connecticut	Tax Credit	10%-30% based on expenses	\$100K-\$1M+: <ul style="list-style-type: none"> 10% (\$100K) 15% (\$500K) 30% (\$1M+) 	None	None	<ul style="list-style-type: none"> \$15M/individual or representing entity \$20M aggregate for star talent 	50% unless other reqs are met
Georgia	Tax Credit	20%-30%: <ul style="list-style-type: none"> 20% base +10% for using state logo & website link or alternative marketing opportunities 	<ul style="list-style-type: none"> \$500K films and television \$250K interactive entertainment (starting in 2018) From single or multiple projects 	None	None	<ul style="list-style-type: none"> \$500K for salaried employees None for those paid by 1099, personal service contract, or loan-out 	None
Hawaii	Tax Credit	20%-25%: <ul style="list-style-type: none"> 20% for productions on Oahu 25% for neighboring islands 	\$200K in-state	\$15M	\$50M/year	None	None
Illinois	Tax Credit	30%-45%: <ul style="list-style-type: none"> 30% on qualified expenses +15% for salaries paid to residents in economically disadvantaged areas 	\$50K-\$100K: <ul style="list-style-type: none"> Prod. < 30 minutes: \$50K Prod. > 30 minutes: \$100K 	None	None	\$100K/resident	1 day
Kentucky	Tax Credit	30%-35%: <ul style="list-style-type: none"> 30% of approved expenditures, 30% of nonresident labor, and 35% of resident labor 35% for approved expenditures & all labor 	\$10K-\$250K: <ul style="list-style-type: none"> Feature film/TV show: \$250K Commercials: \$100K Documentary/Broadway: \$20K Documentary/Broadway by KY company: \$10K 	None	\$100M/CY	\$1M/ATL crew member	None

Note: A.T.L. means above-the-line and refers to positions associated with the creative and/or financial control of a production. BTL is below-the-line and refers to technical production crew, postproduction teams, and non-starring cast.

STATE	INCENTIVE TYPE	LEVEL (%)	MINIMUM SPEND	PROJECT CAP	AGGREGATE CAP	COMPENSATION CAP	MINIMUM FILMING DAYS
Louisiana	Tax Credit	25%-40%: <ul style="list-style-type: none"> 25% base (includes resident & non-resident labor) +10% for state screenplay productions +5% for filming outside of metro area +15% resident payroll credit +5% visual effects credit 	<ul style="list-style-type: none"> \$50K-\$300K: Screenplay: \$50K Other productions: \$300K 	<ul style="list-style-type: none"> Qualified entertainment company: \$1M LA economic development: \$20M Scripted TV series: \$25M/season 	\$150M/FY	<ul style="list-style-type: none"> \$3M/person (including loan-outs) loan-outs do not qualify for the 15% resident payroll credit 	<ul style="list-style-type: none"> None, unless seeking uplift 60% to get the 5% uplift for shooting outside metro area
	Tax Credit	5% of nonwage spending	\$75K	None	None	N/A	None
Maine	Rebate/Grant	Wage rebates: <ul style="list-style-type: none"> 10% for nonresidents 12% for residents 	\$75K	None	None	\$50K/employee	None
	Tax Credit	<ul style="list-style-type: none"> Up to 25% for film productions or small films 27% for TV series 	<ul style="list-style-type: none"> \$25K for small films \$250K for film production direct costs, which are prorated for personnel/ materials in state 	<ul style="list-style-type: none"> Small Films: \$125K Film Productions: \$10M 	<ul style="list-style-type: none"> Small Films: 10% of authorization/FY Film Productions: \$8M (FY 2019), \$11M (FY 2020), \$14M (FY 2021), \$17M (FY 2022), \$20M (FY 2023+) 	<ul style="list-style-type: none"> \$500K for individuals and loan-outs Not limited to time spent in-state 	50%
Massachusetts	Tax Credit	<ul style="list-style-type: none"> 25% production credit +25% possible for payroll 	<ul style="list-style-type: none"> \$50K during a consecutive 12-month period 	None	None	<ul style="list-style-type: none"> \$1M for payroll credit only Loan-outs qualify for payroll credit if income tax withheld 	<ul style="list-style-type: none"> Base credit: 50% filming days or 50% budget expended in state
Minnesota ¹	Rebate/Grant	20%-25% based on min spending & days shooting outside metro area	<ul style="list-style-type: none"> 20%: \$100K ≤ spend ≤ \$1M 25%: Spend > \$1M or shoot outside metro area 	None	Based on fund amount	\$100K/ATL non-resident crew member	None, unless seeking 25% by filming outside metro area
Mississippi	Rebate/Grant	<ul style="list-style-type: none"> 25% investment rebate 30% resident payroll rebate And/or 5% honorably discharged veteran payroll rebate 	\$50K local spending/project	\$10M	\$20M	<ul style="list-style-type: none"> \$5M for cast/crew with wages subject to state tax withholding + additional residency requirements Loan-outs qualify 	None
Montana	Tax Credit	<ul style="list-style-type: none"> 20%-35%: 20% for production Max with additional credits is 35% of total base investment Additional credits: 25% resident TV staff & crew compensation 15% nonresident staff and crew compensation 20% of first \$7.5M for actors, directors, producers, and writers with income tax withholdings 30% of MT student compensation 10% of payments made to MT colleges/universities for stage/equipment rentals or location fees 10% of all in-studio facility and equipment rentals for 20+ days 5% for expenses in underserved areas² 5% uplift for state screen credit 	<ul style="list-style-type: none"> \$50K-\$350K: Dept. of Commerce may reduce from \$350K to \$50K for the following: commercials music videos productions for website creation video games interactive entertainment experimental/low-budget 	None	\$10M	<ul style="list-style-type: none"> \$500K/crew or staff member/production (excludes actors, directors, producers or writers) \$1.5 million/actor, director, producer or writer with withholding (20% x \$7.5M) \$150K/person for 15% & 25% additional compensation credits \$50,000/student for 30% student credit 	None
	Rebate/Grant	<ul style="list-style-type: none"> None Multiple types available, see project caps 	\$300K for film & TV grant	<ul style="list-style-type: none"> Variable for film & TV grant ≤\$50K resident filmmaker grant ≤\$50K development grant ≤\$5K festival grant 	None specified	None	50% principal photography

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¹ There are alternatives to Minnesota's spending minimum for the 25% credit, such as spending at least 60% filming days outside of the metropolitan area.

² A county in which 14% or more of people of all ages are in poverty according to the U.S. Census Bureau.

STATE	INCENTIVE TYPE	LEVEL (%)	MINIMUM SPEND	PROJECT CAP	AGGREGATE CAP	COMPENSATION CAP	MINIMUM FILMING DAYS	
Nevada	Tax Credit	<ul style="list-style-type: none"> 12% ATL nonresident payroll 15% resident payroll (ATL & BTL) 15% qualified expenses +5% possible for using residents and/or rural locations 30% base 35% for filming in Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer or Salem Counties 	<ul style="list-style-type: none"> \$500K in-state and production expenses at least 60% of total budget 	\$6M	<ul style="list-style-type: none"> \$10M/CY Remaining credits may be carried forward for two consecutive years 	<ul style="list-style-type: none"> \$750K/individual or loan-out In-state resident producer comp. must be <10% of in-state expenses Non-resident producer comp. must be <5% 	None, unless seeking rural county bonus credit	
New Jersey	Tax Credit	<ul style="list-style-type: none"> 25% on qualified expenses (base) +5% for standalone TV pilots with an order for 6 episodes in a single series, & a NM budget of \$50K/episode, productions filmed in qualified production facilities, or shooting in rural areas 15% credit for nonresident BTL crew wages 	<ul style="list-style-type: none"> \$1M on qualified expenses or 60% of total expenses occur in-state (excluding post-production) 	None	\$75M	<ul style="list-style-type: none"> \$500K to individuals for story, script, or scenarios as well as writers and directors \$5M for credits on payments to nonresident performing artists Nonresident BTL Wage Credit Nonresident wages ≤15% of total BTL crew wages, or 20% if no NM crew available Production must make a financial or promotional contribution to educational or workforce development efforts 	None	
New Mexico	Tax Credit	<ul style="list-style-type: none"> 30% for qualified expenses +10% possible for productions with budgets exceeding \$500K on qualified labor expenses in specific counties 	None	None	<ul style="list-style-type: none"> \$95M from 7/1/19-7/1/20. If FY 2019 general fund revenue exceeds forecasts by ≥ \$30M, cap increases from \$95M to \$125M. \$100 million prior to 7/1/19. 	<ul style="list-style-type: none"> At least 1 day 		
New York	Tax Credit	<ul style="list-style-type: none"> 30% on qualified expenses +10% possible for productions with budgets exceeding \$500K on qualified labor expenses in specific counties 	<ul style="list-style-type: none"> None, but there are minimum activities to meet to qualify. 	None	\$420M with credit balance rolling over until 2022	None	<ul style="list-style-type: none"> 10% for productions to be filmed in in-state qualified production facility (QPF) & at least 1 day of filming in QPF for independent projects 	
North Carolina	Rebate/Grant	25% on qualified expenses	<ul style="list-style-type: none"> \$3M for feature films \$1M/episode for TV series \$1M for made-for-TV movies \$250K for commercials 	<ul style="list-style-type: none"> Feature Films: \$7 million TV series: \$12M/season Commercials: \$250K 	\$31M	<ul style="list-style-type: none"> \$1M/resident and nonresident Loan-outs qualify if state tax withheld 	<ul style="list-style-type: none"> None Duration in state is a dept. consideration when awarding grants 	
Ohio	Tax Credit	30% on qualified expenses & wages	\$300K	None	\$40M Unused credit rolls over to next FY	None	None	
Oklahoma	Rebate/Grant	<ul style="list-style-type: none"> 35%-37%: 35% on qualified expenses +2% for a minimum spend of \$20K on music recorded in-state by a resident 	\$25K	None	\$8M Does not apply to high impact productions	<ul style="list-style-type: none"> \$25% of total spend can be A TL compensation Loan-outs qualify if registered with Secretary of State 	None	
Oregon	Rebate/Grant	<ul style="list-style-type: none"> OPIF³ & IOPIF⁴: 20% on goods and services +10% for payroll for in-state work (OPIF) or resident wages on projects produced by residents and/or crew of at least 80% residents (IOPIF) IOPIF⁵: 10% of OPIF or IOPIF if a Portland-based production films some portion outside of the metro area Must be combined with OPIF or IOPIF 	<ul style="list-style-type: none"> \$1M for OPIF \$75K to \$1M for IOPIF 	<ul style="list-style-type: none"> OPIF: ≤ half the total incentive fund (≈\$7M/FY) 	<ul style="list-style-type: none"> OPIF: \$14M/FY IOPIF: 7.5% of OPIF (\$1.05M) 	\$1M This applies to ATL, BTL, and loan-outs.	None	None
Oregon	Rebate/Grant	<ul style="list-style-type: none"> Greenlight: 6.2% for labor expenses Can be combined with OPIF rebate 	<ul style="list-style-type: none"> \$1M on qualified expenses or 60% of total expenses occur in-state (excluding post-production) 	None	3% of OPIF (\$420K)	\$1M This applies to ATL, BTL, and loan-outs.	None	

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³ OPIF = Oregon Production Investment Fund. ⁴ IOPIF = Indigenous OPIF. ⁵ IOPIF = Regional OPIF

STATE	INCENTIVE TYPE	LEVEL (%)	MINIMUM SPEND	PROJECT CAP	AGGREGATE CAP	COMPENSATION CAP	MINIMUM FILMING DAYS
Pennsylvania	Tax Credit	<ul style="list-style-type: none"> • 25% for qualified expenses • +5% possible for feature films, TV films, or TV series that meet requirements at qualified production facilities 	<ul style="list-style-type: none"> None, unless seeking 5% uplift for the additional 5%: • Expenses <\$30M: \$1.5M • Expenses ≥ \$30M: \$5M 	<ul style="list-style-type: none"> • 20% of credit budget/FY (\$13M) • Any remaining credit balance is distributed over the next fiscal years. 	\$65M	\$15M for ATL	None, unless seeking additional 5% by using a qualified prod. facility, then 10-15 days at facility
Rhode Island	Tax Credit	30%	\$100K	<ul style="list-style-type: none"> This can be waived if the project is film or a TV series & the amount is < aggregate cap. 	\$15M	None	51% of principal photography or 51% budget expended in state
South Carolina	Tax Credit	10% (For production of commercials)	> \$500K	None	\$1M	None	None
	Rebate/Grant	<ul style="list-style-type: none"> • 20% employee wage rebate for nonresident crew • 25% employee wage rebate for resident crew • 30% in-state supplier rebate on qualifying goods & services 	<ul style="list-style-type: none"> • \$1M for productions • \$10M total & \$1M/episode for TV series 	None	\$15.5M	\$1M/individual Loan-outs qualify if state tax withheld	None
Tennessee	Rebate/Grant	<ul style="list-style-type: none"> • 25% on qualified feature film & TV pilot expenses • 25% labor expenses • +5% for resident wages of scripted TV series 	<ul style="list-style-type: none"> • Feature films & TV pilots: \$200K • Scripted TV Series: \$500K/episode 	None	<ul style="list-style-type: none"> • Based on fund amount • Funding allocated by the General Assembly & varies year to year • Between \$6M & \$10M in 2016 	<ul style="list-style-type: none"> • Feature films & TV pilots: \$250K/resident • Scripted TV Series: \$250K/resident & \$2M total for nonresidents • Loan-outs qualify 	None
Texas	Rebate/Grant	<ul style="list-style-type: none"> • 5%, 10%, or 20% of qualified expenses • % depends on spend amount 	<ul style="list-style-type: none"> Film and TV: • 5%: \$250K • 10%: \$1M • 20%: \$3.5M+ • TV series: \$250K/season Commercials & Video Games: • 5%: \$100K • 10%: \$1M • 20%: \$3.5M+ 	None	Based on fund amount \$32M for 2-year period (2014-2015)	\$1M/resident	60% of total production days
Utah	Tax Credit	<ul style="list-style-type: none"> Motion Picture: • 20% or 25% on post-performance expenses • % depends on spend amount 	<ul style="list-style-type: none"> • 20%: \$500K • 25%: \$1M 	None	\$6.79M	\$250K for in-state ATL	None
	Rebate/Grant	<ul style="list-style-type: none"> Community Film: • 20% on post-performance expenses • 20% or 25% on post-performance expenses Film Commission decides if a prod. gets the credit or rebate/grant 	<ul style="list-style-type: none"> • 20%: \$500K • 25%: \$1M 	None	\$6.79M	\$250K for in-state ATL	None

Note: ATL means above-the-line and refers to positions associated with the creative and/or financial control of a production. BTL is below-the-line and refers to technical production crew, postproduction teams, and non-starring cast.

STATE	INCENTIVE TYPE	LEVEL (%)	MINIMUM SPEND	PROJECT CAP	AGGREGATE CAP	COMPENSATION CAP	MINIMUM FILMING DAYS
Virginia	Tax Credit	<ul style="list-style-type: none"> • 15% base credit on qualifying expenses • +10%-20% for total resident payroll (20% if resident wages > \$1M) • +10% for residents employed as first-time actors/members of production crew • 20% credit if filmed in economically distressed area 	\$250K	None	\$6.5M	\$1M/person	50%
	Rebate/Grant	<ul style="list-style-type: none"> • Variable • Made at the discretion of the Governor • Based on employment, investment, presence of local commitment, and industry/company growth potential 	\$250K	None	Depends on allocation and unused spending	Does not cover 100% of resident labor costs	50%
	Rebate/Grant	<ul style="list-style-type: none"> • 30% for qualified expenses • 35% for episodic series of 6 or more episodes • 15% for commercials 	<ul style="list-style-type: none"> • \$500K for motion picture • \$300K/episode for episodic series • \$150K for commercials 	None	\$3.5M	\$50K for nonresident wages	85%

Note: ATL means above-the-line and refers to positions associated with the creative and/or financial control of a production. BTL is below-the-line and refers to technical production crew, postproduction teams, and non-starring cast.
 Source: State film offices and DOAA analysis

Appendix D: Detailed Results of the Impact Study



Output

Effect	Film	Interactive Entertainment	Studio Construction	Film Tourism	State Government	Net
Direct	\$2,199,096,310	\$39,000,000	\$122,000,000	\$145,666,108	-\$932,093,784	\$1,573,668,634
Indirect	\$939,733,115	\$16,494,743	\$27,227,351	\$73,693,988	-\$254,226,409	\$802,922,788
Induced	\$918,306,224	\$35,802,618	\$60,149,064	\$72,401,330	-\$618,102,087	\$468,557,149
Total	\$4,057,135,649	\$91,297,361	\$209,376,415	\$291,761,426	-\$1,804,422,280	\$2,845,148,571
Multiplier	1.84	2.34	1.72	2.00	1.94	

Labor Income

Effect	Film	Interactive Entertainment	Studio Construction	Film Tourism	State Government	Net
Direct	\$1,536,766,447	\$31,650,015	\$55,578,749	\$52,942,156	-\$588,098,830	\$1,088,838,537
Indirect	\$244,631,334	\$6,846,781	\$9,130,058	\$24,998,724	-\$77,978,226	\$207,628,671
Induced	\$299,425,609	\$11,174,810	\$18,774,073	\$22,598,597	-\$192,931,581	\$159,041,508
Total	\$2,080,823,390	\$49,671,606	\$83,482,880	\$100,539,477	-\$859,008,637	\$1,455,508,716
Multiplier	1.35	1.57	1.50	1.90	1.46	

Employment

Effect	Film	Interactive Entertainment	Studio Construction	Film Tourism	State Government	Net
Direct	10,919	202	1,017	2,591	-13,617	1,112
Indirect	5,504	144	142	472	-1,744	4,518
Induced	6,786	261	439	529	-4,515	3,500
Total	23,209	607	1,598	3,592	-19,876	9,130
Multiplier	2.13	3.00	1.57	1.39	1.46	

Source: Study results

Appendix E: Share of Employment and Labor Income

Project Type	Quartile	Budget Range ¹	Employment		Labor Income	
			Residents	Nonresidents	Residents	Nonresidents
Movie	1	Less than \$4.4 million	76%	24%	67%	33%
Movie	2	\$4.4 million to \$16 million	79%	21%	40%	60%
Movie	3	\$16 million to \$40 million	84%	16%	40%	60%
Movie	4	Over \$40 million	72%	28%	30%	70%
TV ²			85%	15%	60%	40%
Overall Film³			80%	20%	47%	53%

¹ We used the project's total budget to determine the quartile, not the project's spending in Georgia.

² We did not divide television shows by budget quartile for the impact analysis.

³ Due to data limitations, we assumed all workers in the Other category (e.g., commercials) were residents. This assumption is reflected in the Overall Film percentages for labor income. However, we did not have sufficient information regarding job numbers to make this allocation for employment, so these percentages only include movies and television. The Other projects represent approximately 1.8% of 2016 production company spending.

Source: DOAA review of DOR audit documentation

Appendix F: Other States' Studies

State	Report Date	Prepared for:	State Government Return on Investment ¹	Production Multipliers ²		
				Jobs	Labor Income	Output
Legislative Audit or Similar Entities						
California	September 2016	Legislative Analysis Office	NA	NA	NA	2
Maryland	September 2015	Department of Legislative Services, Office of Policy Analysis	\$0.06	NA	NA	NA
Mississippi	December 2015	Joint Legislative Committee on Performance Evaluation and Expenditure Review	\$0.49	NA	NA	NA
Oklahoma	November 2016	State of Oklahoma, Incentive Evaluation Commission	\$0.13	1.22	1.71	1.91
Virginia ³	November 2017	Joint Legislative Audit and Review Commission	\$0.2-\$0.3	NA	NA	1.6
West Virginia	January 2018	Legislative Auditor	NA	NA	NA	1.41
Other Agencies						
Alabama	March 2017	Department of Revenue	NA	1.61	1.93	1.51
Louisiana ⁴	April 2017	Department of Economic Development	\$0.22-\$0.23	NA	NA	1.37
Louisiana ⁵	2019	Department of Economic Development	NA	2.70-2.95	2.19-2.20	2.03-2.07
Massachusetts	March 2018	Department of Revenue	\$0.14	NA	NA	NA
New York	January 2017	Empire State Development	\$0.51	2.07	2.11	1.92
New York	April 2019	Empire State Development	\$0.48	1.98	2.08	1.89
Oregon	December 2016	Oregon Governor's Office of Television and Film	\$0.67	2.10	1.56	NA
Industry Studies						
Louisiana ⁶	April 2015	Louisiana Film and Television Entertainment Association and the Motion Picture Association	\$0.15-\$0.39	1.62	1.58	1.48
Massachusetts	May 2013	Motion Picture Association	NA	1.76	2.06	1.72
New York	December 2012	Motion Picture Association	\$1.09	2.29	1.81	1.8
North Carolina	2014	North Carolina Regional Film Commissions and the Motion Picture Association	\$1.09	NA	NA	NA
Ohio	June 2015	The Greater Cleveland Film Commission	NA	2.02	2.27	2.11
<p>Note: NA = Not available or unable to be determined from the available data</p> <p>¹ The ROI used is state tax revenue generated divided by state incentive cost.</p> <p>² These are the multipliers for incentivized film production activity. They do not include tourism or infrastructure investment.</p> <p>³ Virginia offers a credit and a grant. The lower ROI is for the credit and the higher ROI is for the grant.</p> <p>⁴ The analysis covers years 2015 and 2016. The lower ROI is the 2016 value and the higher ROI is the 2015 value. The output multiplier is for 2016.</p> <p>⁵ The analysis covers years 2017 and 2018. The multiplier ranges reflect the different years. A different contractor was used for this study than the 2017 study.</p> <p>⁶ This range is based on certified cost. The lower value excludes tourism and the higher value includes it.</p>						
Source: State agencies, industry groups, and DOAA analysis						

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